Chapter 8
Men's Issues in Sexuality and Aging

Although population-based studies indicate that men typically engage in a variety of sexual activities well into their 80s and 90s, additional findings suggest that nearly two out of three men will experience erectile dysfunction at some point in their lives.

The expression of male sexuality encompasses significantly more than the number of times per month one has intercourse or a man's ability to have an erection. At the same time, clinicians must recognize that many older men do place significant emphasis upon their ability to have penetrative intercourse and that any complaints or concerns about erectile dysfunction (ED) must be taken seriously. ED represents one of the most common sexual problems that older men experience, and clinicians can play a vital role in providing patients with the ability to seek appropriate medical consultations, to allay anxiety about diagnostic procedures, to manage psychological problems related to sexual dysfunction, to involve their partners in assessment and treatment, and to help resolve issues related to sexual identity and prowess.

Historical and Societal Context

One of the cornerstones of Freud's theory was his articulation of the differences between male and female sexuality and sexuality's overall relation to personality functioning and development. The penis, as reflected in its importance as an external sexual organ (as compared to the internalized, female uterus), was paramount. From early childhood, women were thought to envy the penis both symbolically and literally. The penis represented something that a woman was "missing" as well as more general opportunities to advance and enact change in a male-dominated society. Although it can be argued that Freud was a champion of women in that he took their views seriously, promoted nonsexualized physician–patient relationships, and believed that psychic trauma rather than an inflamed uterus was responsible for neuroses and psychosomatic symptoms, he remained steeped in his culture and championed the

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inherent position and power of men. The psychological price to be paid for such an emphasis on male anatomy is that men could be expected to experience castration anxiety in the presence of aggressive women and mothers, competing fathers, and personal failures at home or at work. Perhaps such fear of decline in sexual prowess has helped to drive the recent change in the popular lexicon from a discussion of impotence to the less emotionally charged term erectile dysfunction or ED.

Popular culture reflects this general emphasis on the male sexual organ and its imbued abilities to wield power and foster competition. Consider the pervasive use of slang and curse words to illustrate the power of the penis: fuck you; bite me; suck it; blow me; piss off; dick head; jerk off; prick; tool; and he's got balls. There are no such parallel expressions featuring female anatomy. Something is inexorably tied between the penis and competition, aggression, and physical satisfaction in the public eye. Men over the age of 50 including Pierce Brosnan, Denzel Washington, Denis Quaid, Richard Gere, Liam Neesan, and Sean Connery command large audiences as action heroes and sex symbols. Despite the emergence of the aging female "cougar," it remains much more common and socially acceptable for older men to marry and date younger women. Although some changes are taking place, sex and power remained intertwined in Western culture, particularly for men. As a corollary, any sexual dysfunction among men (caused by physiological or psychological difficulties) must be taken seriously as a significant psychological assault.

Normal Changes in the Sexual Response Cycle

Even though aging is not a pathological process, normal aging typically produces some changes in male sexual functioning. Many middle-aged and older male patients are unfamiliar with these changes, and may experience significant anxiety when they occur. Sometimes the simple dissemination of knowledge of these age-related changes is enough to ease the mind of older male patients and to encourage them to take proactive measures and resume their enjoyment of sexual activity. A mental health provider can help provide such psychoeducation and can also serve as a conduit for more effective communication between a male client and his family practitioner, internist, cardiologist, oncologist, urologist, or geriatrician when it appears that true physiological or medical problems may underlie such sexual changes.

There is some debate about whether men experience age-related hormonal changes as women do in menopause. These hormonally related changes in males are believed to be associated with a very gradual decline in the production of testicular testosterone sometime after the age of 50. More specifically, some researchers attribute a general loss in sexual interest or libido and a decrease in the ability to obtain and maintain an erection to this decline in androgen production (Kaiser and Morley 1994; Morley 1996; Patnaik and Barik 2005). Alternatively, other researchers assert that testosterone production has little to do with an ability to maintain an erection (Segraves and Segraves 1995), and that other factors such as vascular disease appear to play a major role (Kaiser et al. 1988).

Whether or not a decline in testosterone, specifically, is responsible for changes in the sexual response cycle among middle-aged and older men, a number of normative age-related changes are commonly observed (e.g., Kuzmarov & Bain, 2009):

- Decline in sexual desire or libido.
- Decrease in vasocongestion (blood flow) to the scrotum.
- Decline in the number of both spontaneous and morning erections.
- Reduced tension in the scrotal sac both before and during intercourse.
- Decrease in penile sensitivity.
- Increase in time required to achieve erection.
- Tactile stimulation may be required to achieve an erection.
- Decline in the rigidity of erection.
- Increase in time required for orgasm and ejaculation.
- Decline in the force and volume of ejaculate.
- Longer refractory period between erections.
- Although it is not an age-related change, most men (and their partners) are unaware that the ability to experience or feel an orgasm is separate from the act of ejaculation. In other words, men can orgasm without ejaculating.

Some men find that while they were once able to achieve an erection in seconds, they may now require a few minutes to achieve arousal sufficient for penetration. This may not necessarily indicate underlying pathology; a decrease in the number of adrenergic and cholinergic receptors may interfere with smooth muscle relaxation and the rapid, autonomic flow of blood to the penis to produce an erection (e.g., Schiavi & Rehman, 1995). Unfortunately, feelings of panic and concern may be common for men who are unaware that this time delay in achieving erection is normal in many regards. Many older men immediately jump to the conclusion that they have ED and unnecessarily avoid or cease involvement in sexual activity.

Because both middle-aged and older men also may experience a general decline in sexual desire, their partners may or may not question whether their attractiveness or desirability is also in decline. Some partners and spouses may become confused, frustrated, or angry when they find that they are asked, or simply need, to physically stimulate their partner's penis in order for him to achieve an erection. One long-time spouse remarked, "I always thought it was just good enough for him to just see me naked…Now he wants me to touch him with my hands and my mouth…We haven't done that sort of thing in years…Why aren't I good enough the way I am?…Is this some sick fantasy of his or is he having an affair and maybe *she* does those things?" Effective communication between partners can become critical. Many older men are distressed deeply that they "can't get things going" as quickly as they used to, and feel powerless and embarrassed. Learning that their partner or spouse is willing to discuss the issue can alleviate further performance anxiety in such men. Some partners are happy to place less emphasis on the actual quality of a spouse's erection than on the quality of their foreplay or on their relationship in general, and both parties can move forward to simply enjoy each other without heightened performance-related demands or expectations.

Not all age-related changes in the male sexual response cycle are inherently negative, however. For example, many middle-aged and older men who previously experienced difficulties with premature ejaculation, an increased need for physical stimulation, and a slower buildup to orgasm can prolong the sexual act, which can be associated with greater enjoyment for both partners. Some older men have described feeling free to enjoy themselves and their sexual partners now that they no longer have to worry about "holding back" or "controlling themselves" during intercourse. Other partners have reported that they enjoy the slower pace of sex now that their husband "takes his time" and seems to enjoy himself instead of rushing ahead to climax. Again, open communication and basic education among both partners (often assisted by a clinician) can be critical.

Clinical Interviewing and Assessment

Proper interviewing and assessment is vital to assist older men in discussing previously undisclosed issues in order to foster patient education, interpersonal exploration, and consultations with appropriate medical specialists when necessary. Open-ended questions and questions that assume the presence of some difficulties may make it easier for initially reluctant patients to respond. Sometimes the presence of a younger, female clinician can be cause for concern among older male patients who may not be accustomed to women as professionals or who were raised in a cohort in which it was considered inappropriate to discuss sexual matters with women. If a client appears reluctant to discuss sexual concerns with a female professional, a frank discussion of that concern is in order. Similar issues can arise when an older male patient is confronted with a younger male clinician. Most patients respond very positively when their clinician is willing to address the "process" as well as the "content" of their interview. Sometimes simply asking, "What is it like for me to ask you these questions about sex?…Some people do find it a little unsettling at first" is enough to engender a meaningful discussion of the patient's underlying anxieties, fears, and social mores. Once these issues are addressed, a more open discussion of a patient's sexual concerns and symptoms is likely to follow.

A number of standard questions can be addressed during a patient interview, or when a patient in longer-term therapy suddenly announces concerns about sexual function. These include (e.g., Galindo & Kaiser, 1995; Sbrocco et al. 1995):

- Most people have some difficulties with sex at some point in their lives. What concerns do you have about your sex life or sexual functioning?
- How do you think your partner feels about your sex life?
- What do you think constitutes a satisfying sex life? How would you compare your own sex life to your idea of a satisfying or "perfect" sex life?
- How often do you masturbate? Do you ever have any trouble masturbating? What kind of trouble do you have?
- Are your sexual partners, both now or previously, primarily women or men? Have you ever had any same-sex sexual encounters? Have you ever had sex with

a prostitute? With an intravenous drug user? (Be *sure* to consider the patient's religious beliefs carefully when asking such questions regarding high-risk behaviors and masturbation.)
- How do you feel about your body? Are you happy with it or are there some things that worry you, or that you wish could be different? Have you ever tried to change anything about your body? How are your eating habits?
- How difficult is it for you to talk about sex with your partner? Have you ever talked about anything in particular?
- How difficult is it to get a full erection during sex? During masturbation?
- How often do you get erections? Are they as firm as you would like them to be, or as they used to be?
- Is it ever painful when having sex?
- Are you able to orgasm/cum/ejaculate?
- How interested or disinterested are you in sex? Is this level of interest different than before?
- Do you ever have trouble or pain when urinating? Do you need to go to the bathroom more often than you would like? Has your prostate ever been checked?
- What medical problems do you have? What have you been diagnosed with?
- What prescription medications are you currently taking? What over-the-counter medications do you take, even on an occasional basis?
- How often do you smoke, drink alcohol, or use drugs?
- Would you like to know more about the typical changes that take place with sexual functioning as a man becomes older?

Note that issues involving masturbation, quality of communication between partners, participation in high-risk behaviors, underlying medical conditions, concerns about one's overall appearance, and overall interest in sex are just as important as specific questions about the presence and firmness of an erection. Older male clients often benefit from the implicit message that their global sense of sexuality and self is at least as important, if not even more important, than the singular functioning of their penis.

Erectile Dysfunction

Definitions and Prevalence

Erectile dysfunction or ED represents one of the most feared symptoms of sexual dysfunction among men. Previously referred to as impotence, the currently used and presumably less pejorative term ED (promoted strenuously in advertising by its producer, Pfizer) is defined by the US National Institutes of Health as "an inability of the male to achieve an erect penis as part of the overall multifaceted process of male sexual function" (NIH, 1992). A similar definition is promoted by the United Kingdom's Sexual Dysfunction Association, in which ED represents "the persistent or recurrent inability to attain or maintain an erection sufficient to complete sexual intercourse or another

chosen sexual activity" (Sexual Advice Association, 2011). The focus of these definitions appears to be upon a man's inability to maintain or sustain an erection sufficient enough to engage in some kind of penetrative sexual activity.

Estimates suggest that ED affects more than 150 million men worldwide, including those in European nations, the USA, Asia, and developing countries (Khoo et al. 2008; McKinlay, 2000; Moreira et al. 2006). In the USA, ED is identified as the most common source of sexual dysfunction among men. By midlife 40% of all men are expected to experience ED (Sand et al. 2008), whereas by age 70 up to 67% may experience ED (Laumann et al. 1999). Additional reviews suggest that the vast majority of men with ED never receive a diagnosis (Feldman et al. 1994). It also is important to note that by the time men reach age 40, more than 90% experience at least one erectile failure. Such transient inability to attain or sustain an erection represents a normal part of aging, and not a sign of ED (McCarthy, 2001). To complicate matters further, few men or their health care providers broach the topic on a regular basis (Hillman 2008a, b), and those men that do may not seek clinical treatment (Wentzell & Salmeron, 2009).

Clinical Stereotypes and Assumptions

Many men are reluctant to even discuss ED and are not likely to be cognizant of the underlying medical problems, surgical procedures, and side effects of prescription medications that can cause it. To compound the problem, many clinicians employ stereotypes that older or elderly men do not have a true or valid need for penetrative vaginal or anal intercourse, and that it simply becomes a matter of helping these men garner enjoyment from "other" sexual activities (Butler et al., 1994). Similarly, findings from various studies suggest that men from certain socioeconomic and ethnic groups are more likely to cease participation in all sexual activity if they become unable to achieve penetration with a partner (Cogen & Steinman, 1990; Wentzell & Salmeron, 2009). In other cases, a clinician's cultural or religious background may inhibit a discussion of the importance of the client's symptoms. It becomes the clinician's primary responsibility to help an older male patient discover the underlying cause of his ED and to look for both medical and evidence-based psychological treatments to help ameliorate his symptoms. Only as an absolute last resort should an older man be told, in effect, "Well, your inability to have [penetrative] sex is a significant loss that will have to be recognized, discussed, and mourned…There is really nothing you can do about it."

Mike

Mike was a 66-year-old single man who was involuntarily admitted to a psychiatric facility following a suicide attempt. He had been scheduled to go through a painful

rectal procedure and took a bottle of sleeping pills the night before in order to avoid going through the surgery. At the time, he had been unemployed and homeless for the last 6 months and was staying with his financially successful older sister and her husband. Mike engaged reluctantly in psychotherapy, primarily because he acknowledged that if he were not willing to discuss his suicide attempt he was not likely to be released from the unit any time soon. He was diagnosed with major depression and dependent personality disorder. On the unit he was passive and had difficulty discussing his own needs and wants. Mike began to progress in therapy and recognized that his outbursts of yelling and cursing ostracized him from the family members he cared most about, and that he could find more assertive ways to deal with his problems. He began to explore his feelings of failure as a younger man and acknowledge that his suicide attempt was a way to gain attention from his family members, to make his family members feel guilty, and to avoid taking responsibility for his own health. He also agreed to take antidepressant medication at the request of the staff psychiatrist.

Three weeks into treatment, Mike discussed his difficulties in finding a "steady girlfriend." His suicide attempt was preceded by his previous girlfriend's abrupt termination of a year-long relationship after he lost his job as a masonry worker because of layoffs. He expressed a desire to be married, but feared that he was getting too old for anybody to want him, particularly with his sporadic work history and moderate level of income. He also told his therapist that he was having trouble with some things "down there, you know?" When his therapist said that she wanted to understand what he meant by that, Mike said that he "had trouble, you know, moving things along, getting things into place, when [he was] out on a date." He said that he didn't even want to go on dates when he knew that if "things started getting close…I couldn't deliver." His therapist assured him that these were very important concerns, and suggested that while they discuss the possible impact of his recent breakup with his last girlfriend on his ability to "be prepared," he simultaneously ask the staff psychiatrist about possible, underlying medical causes for his problem. (Only the staff psychiatrist could make other medical referrals.) The therapist also approached Mike's psychiatrist privately and informed her that Mike was gathering the courage to schedule an appointment to discuss a particularly sensitive issue.

A few sessions later, Mike seemed particularly angry and morose. When his therapist asked him if something triggered his abrupt change in mood, he answered bitterly, "That bitch said that it wasn't something I should be worried about—that I have more important things to work on like not being so depressed…What the hell does she know? Maybe I'm depressed because I can't get it up, you know?…She said that she might make a referral for me to see a urologist in 'a month or so if it's still bothering [me].' You know, what the fuck is that?" The therapist quickly mirrored Mike's frustration with his inability to get important information, and more importantly, his inability to be taken seriously. (The therapist also had to work carefully to avoid making a split in the treatment team by offering unprofessional comments regarding the staff psychiatrist.) Mike's initial response to his psychiatrist's snafu was to have his therapist approach her instead and "do it for me, would you?… You obviously know her better than I do, and she'll respect you more since you're a

professional and she thinks I'm just some stupid bricklayer." In addition to not getting his concrete needs for information and validation met, he felt symbolically (and literally) castrated. With further discussion, Mike recognized that he was entitled to have his own needs and concerns addressed, and that his job description had nothing to do with his inherent rights as a person or a patient. In a very concrete way, he was prepared to approach his psychiatrist again, tell her that this issue was very important to him, and ask for an immediate referral to the hospital urologist.

After this session, the therapist brought up this issue during the next treatment team meeting. She presented what Mike told her and asked for clarification about "what really happened." Again, the therapist felt that she would have to proceed carefully in order to gather the appropriate information and to not ostracize the psychiatrist and promote even greater difficulties for her patient in the future. To the therapist's surprise, the psychiatrist responded unabashedly, "Oh, yes, I remember that…he's the little guy with dark hair…I don't see why he needs a referral now, anyway. He's not married and he doesn't even have a serious girlfriend…He doesn't need that problem treated right now; he's got more important things to work on." The occupational therapist on the team quipped, "So what if he doesn't have a serious girlfriend! It's his body and if he wants it to work right, why can't he get a referral?…Maybe he likes having one night stands or he likes to 'take care of things himself' but that's not any of our business to judge him."

To the staff psychiatrist's credit, a lively discussion ensued in which she acknowledged that her cultural and religious views prevented her from seeing the importance of being able to achieve erection and climax, even without the promise of a steady partner. Mike's psychologist also was able to articulate that his loss of potency resonated painfully with his overall feelings of passivity and hopelessness. The fact that his psychiatrist dismissed his concerns so easily also reinforced his feelings that he had no sense of agency or worth. The therapist then advised the psychiatrist to wait until Mike approached her to discuss the issue again (in order to provide him with positive reinforcement for a newly attempted, assertive behavior) before she made the appropriate referral. Working with a urologist, Mike and the psychiatrist then selected a different antidepressant medication that did not interfere with Mike's ability to have erections. Now that he was less preoccupied with his sexual functioning, Mike also was able to make more progress in therapy regarding his depression and more defensive interpersonal style.

Underlying Causes

Although it is vital for clinicians to address the potential psychological underpinnings of ED, as a man ages it becomes more likely that the cause of his ED is physiological (Beaudreau et al. 2011; Pommerville, 2006). Because the causes of ED become multifactorial with increasing age, educating and encouraging our clients about seeking appropriate referrals becomes vital. Rightly or wrongly, many men and their partners feel relieved to learn that medical problems may be responsible

for their ED because most men attribute their inability to perform as a sign of personal failure or as a loss of their masculinity. Having a general knowledge base of specific medical disorders commonly associated with erectile difficulties can help speed this process. Medical problems associated with ED often include (e.g., Chun & Carson, 2001; Mayo Clinic 2011a, 2011b, 2011c, 2011d, 2011e). It also is important to note that men with various high-risk factors for ED (e.g., hypertension, high cholesterol, diabetes, and depression) may be unaware of their increased risk for ED (Shabsigh et al. 2010) and require appropriate education.

- Diabetes mellitus. The vascular changes associated with type II diabetes, including a reduction in blood flow and circulation, can lead to difficulties in achieving erection. Neurological damage also can be associated with poor sexual function. Estimates from various studies suggest that between 35 and even 90% of men with type II diabetes will experience some form of erectile dysfunction (Malavige & Levy, 2009).
- Vascular diseases including atherosclerosis, high cholesterol, hypertension (i.e., high blood pressure), sickle cell anemia, and Leriche syndrome. Plaque and occlusions in the blood vessels can extend from the coronary arteries to the penile arteries, making obtaining an erection difficult if not impossible. As noted in Chapter 5, other patients who have had heart attacks may fear the chest pain that often accompanies intercourse and limit their sexual activities.
- Endocrine and metabolic disorders such as hypothyroidism, hypogonadism, hyperprolactinemia, Addison's disease, and Cushing's disease.
- Systemic disorders such as renal failure, myotonia dystrophia, and chronic obstructive pulmonary disease.
- Neurological disorders including multiple sclerosis, Parkinson's disease, temporal lobe epilepsy, Alzheimer's disease, stroke, pelvic nerve lesions, and spinal cord injuries.
- Substance abuse and dependence. Tobacco, alcohol, amphetamine, heroine, and cocaine have been shown to cause difficulties in achieving erection and orgasm. Cirrhosis of the liver also has been associated with ED.
- Urinary tract infections (Tsai & Pan, 2010)
- Pelvic surgeries that lead to damage of the neuromuscular bundle of the penis (the nerves and blood vessels that promote erections). Surgery to remove prostate gland tissue, colorectal surgery, and bladder surgery are typically responsible for such damage, even though procedures are being improved to avoid disrupting these nerves and vessels. Estimates suggest that removal of the prostate may cause ED in up to 12% of all men who have this surgical procedure (Schiavi & Rehman, 1995).
- Obesity, with a waist circumference equal to or greater than 40 in. (Shabsigh et al., 2010).
- Psychological disorders such as depression and anxiety. Although it remains unclear to what extent ED may be caused by psychological or physiological factors in these cases, ED and overall loss of libido are common symptoms of depression in middle-aged and older men.

This list of health-related risk factors is certainly not exhaustive, and increased levels of overall stress, fatigue, and distraction can play a significant role in sexual dysfunction. It also is important to note the complicated etiology of ED in many cases. For example, a man might be clinically depressed and as a result develop ED, yet when his depression is resolved successfully with a prescribed selective serotonin reuptake inhibitor (SSRI) such as Prozac, he finds that an unwanted side effect of his medication itself is ED (Nurmberg et al. 2003).

Although many cases of ED can be addressed primarily through medical means, many older men also display problems with sexual performance as a result of underlying psychological conflicts. Widower's syndrome (e.g., Meston, 1997) is described as a commonly occurring phenomenon in which a man finds himself unable to consummate a new marriage or relationship, even many years after the death of his wife or partner. Unresolved issues of loss, grief, guilt about engaging in a new relationship, and fears of another potential loss are believed to manifest themselves psychosomatically and prevent the older man from fully engaging in a new romantic relationship. For these widowers, individual psychotherapy and participation in support groups can provide an outlet for these feelings and thus unblock channels to future intimacy. As with younger men, general performance anxiety also can lead to sexual dysfunction. The use of sensate exercises, in which both partners have the freedom to explore sexual pleasure without the need to engage in actual intercourse, can alleviate such anxiety and reestablish psychological, as well as physiological, intimacy.

Side Effects of Medication

As noted, in addition to medical problems inducing sexual dysfunction, a number of prescription medications can induce ED (e.g., Mayo Clinic 2011a, 2011b, 2011c, 2011d, 2011e; Nurmberg et al., 2003). It is important to acknowledge that some physicians themselves are unaware of these side effects, and they may not assess the pros and cons of prescribing one medication versus another when the effects of ED are particularly distressing for a male patient. Psychologists and other mental health care providers can employ general knowledge of these medications to help steer patients in the right direction to obtain appropriate referrals and consults. See Table 8.1 for a list of some of the more common medications that have been shown to produce sexual dysfunction, including ED.

Some classes of medications, such as antihypertensives for high blood pressure, produce sexual dysfunction in many male patients (Mayo Clinic 2011a, 2011b, 2011c, 2011d, 2011e). Other medications that treat depression are implicated in ED (Nurmberg et al., 2003), although some antidepressants such as bupropion have been shown to produce less sexual dysfunction than others. Clinicians also should inquire about the presence of such sexual side effects; low rates of medication compliance may result when ED emerges as an unexpected side effect. It also is important to note that treatment of an underlying chronic illness itself (e.g., engaging in lifestyle changes to reduce weight and high blood pressure) can also serve as a treatment for ED (Wentzell and Salmeron 2009).

Table 8.1 Drugs associated with sexual dysfunction

Medication class	Name	Generic or brand name
Prescription drugs		
Alpha blockers	Prazosin	Minipress
	Terazosin	Hytrin
Antidepressant	Clomipramine	Anafranil
	Fluoxetine	Prozac
	Paroxetine[a]	Paxil
	Sertraline[a]	Zoloft
	Venlafaxine	Effexor
Antimania	Lithium	Eskalith, Lithonate
	Topamarite	Topomax
Antianxiety	Alpraolam[a]	Xanax
	Lorazepam[a]	Ativan
	Temazepam[a]	(Generic)
Antiarrythmic	Disopyramide	Norpace
Anti-inflammatory	Naproxen	Anaprox, Naprelan, Naprosyn
	Indomethacin	Indocin
Antihypertensive & diuretics	Atenolol[a]	(Generic)
	Clonidine	Catapress
	Digoxin[a]	Lanoxin, Digibind
	Furosemide	Lasix
	Hydrochlorothiazide[a]	Lopressor
	Propranolol	Inderal
Antiparkinsonian	Biperiden	Akineton
	Benztropine	Cogentin
	Bromocriptine	Parlodel
	Levodopa	Sinemet
	Procyclidine	Kemadrin
	Trihexyphenidyl	Artane
Antipsychotic	Haloperidol	Haldol
	Mesoridazine	Serentil
	Trifluoperazine	Stelazine, Suprazine
Antiseizure	Phenytoin[a]	Dilantin
Chemotherapy	Tamoxifin	Nolvadex
Muscle relaxant	Cyclobenzaprine	Flexeril
	Orphenadrine	Norflex
Prostate cancer medication	Flutamide	Eulexin
	Leuprolide	Lupron
Sleep Aid	Zolpidem	Ambien
Miscellaneous	Celebrex	Celecoxib
	Donepezil[a]	Aricept
Over-the-counter and herbal preparations		
Antihistamine	Dimehydrinate	Dramamine
	Diphenhydramine	Benadryl
	Drixoril	Tavist-D

(continued)

Table 8.1 (continued)

Medication class	Name	Generic or brand name
Histamine receptor antagonist	Cimetidine	Tagamet
	Nizatidine	Axid
	Ranitidine	Zantac
Herbal	Alkaloids	Rauwolfia
	Glycyrrhiza glabra	Licorice
	Hypericum	St. John's Wort
Recreational and frequently abused drugs		
Analgesic	Opiate	Heroin, Methadone, Opium
Depressant	Alcohol	Beer, Liquor, Wine
	Barbiturates	Amytal, Downers, Yellowjackets
Hallucinogen	Cannibus	Pot, Marijuana, Hemp, THC
Stimulant	Amphetamine	Speed, Ice, Bennies, Crystal meth
	Cocaine	Coke, Crack, Blow
	Nicotine	Cigarettes, Cigars, Chew, Snuff

Notes: This list of drugs is meant to be illustrative rather than comprehensive
[a]Identified as one of the 50 most frequently prescribed oral drugs among older adult hospital patients (Steinmetz et al. 2005)

Ralph

Ralph was a 69-year-old man who was admitted to a psychiatric facility after being arrested for disorderly conduct. He had broken antennas off of parked cars after an alcohol-filled night out on the town. Ralph had been diagnosed with bipolar disorder and had apparently stopped taking his medication a month ago. He had become manic, unable to speak coherently because of pressured speech, and he manifested grandiose delusions and poor social judgment. Although he had a relatively high-paying job as a computer repairman, he spent most of his savings during the past few weeks on expensive clothing, dinners, and horse racing. His wife of 20 years threatened to leave him if he was not willing to stay in the hospital for extended treatment.

About 3 weeks after admission, Ralph had begun to make progress. He was prescribed lithium by the unit psychiatrist, and his mental status improved significantly. He still had some grandiose delusions, but his speech rate became normal and staff members could understand clearly what he was saying. Ralph was now able to plan for the future and recognize the consequences of his actions. He also had a healthy sense of humor and he used it to make friendly acquaintances with other patients. He participated actively in group and individual therapy, and the treatment team decided that he had made enough progress to have unrestricted visiting hours and run of the grounds during scheduled breaks.

The next week, however, a nursing assistant found Ralph sitting on a pool of blood on his bed around 4 a.m., clutching at his arm and hand. The window in his room had been broken, even though it was entwined with wire and sprayed with special coatings to make it impenetrable to all but the strongest blows.

After receiving more than 35 stitches, Ralph was asked what had happened. Through pressured speech, he admitted that he had not taken all of his medication. When asked what had caused him to stop taking his pills as prescribed, Ralph stopped talking and stared straight ahead. He then lifted his arm above his head and screamed plaintively, "I can't masturbate anymore. I mean, I can't get off!…You can't take that away from me—even in this hell hole!"

Apparently, a side effect of the lithium prevented Ralph from experiencing orgasm; he described masturbating in his room "for hours" to no avail. "You have no idea how frustrating that is, you just don't know, especially for someone as important as me." What Ralph meant symbolically was that no one cared to recognize how important the functioning of his body was to him, particularly on a sexual level. Neither his psychiatrist nor psychologist had discussed ED with him as a potential side effect of his medication, nor had they asked him directly about the presence of any such symptoms as he resumed taking his medication. Although Ralph's psychologist certainly was not responsible for his medication directly, the application of her knowledge in this area would have been quite relevant. If these professionals had intervened, or even made an appropriate inquiry, Ralph's serious injury could probably have been avoided.

Treatments for Erectile Dysfunction

A number of treatments are available for older men experiencing ED. They generally fall into two categories: medical and psychological approaches. (Alternative approaches such as high-potency vitamins, herbs, and acupuncture are not discussed here as available evidence for the effectiveness of these alternative treatments is limited; Mayo Clinic 2011a, 2011b, 2011c, 2011d, 2011e). As noted, ED among middle-aged and older men does not always have one focal, underlying cause. Rather, the cause of ED is often multidimensional, and may include multiple medical problems or some combination of medical and psychological difficulties. Clinicians must be careful to avoid a narrow focus upon one specific problem or factor. A current tendency in the field appears related to the medicalization of ED in which psychological factors tend to be downplayed or ignored. This trend appears heightened with the prevalence of advertising and mass marketing of oral medications.

PDE-5 Inhibitors as a First Line Medical Approach to Treatment

Medical treatments for ED can be grouped into four primary categories: PDE-5 inhibitors (e.g., Viagra; Cialis), vacuum devices, injectable vasoactive drugs, and penile implants. Each type of treatment has its own degree of invasiveness, effectiveness, financial cost, and observed rates of compliance. The most recent medical advances in the treatment of ED involve oral, prescription medications also known

as PDE-5 inhibitors. These drugs, including sildenafil citrate or Viagra, have been touted as miracle pills because a man with ED can take a pill, and within 1–4 h before intercourse have an erection with purportedly few side effects. Because only a simple pill is required, no cumbersome equipment, surgery, or needles are involved, and a higher degree of privacy or secrecy can be maintained if the man so desires. Unlike other medical means of treating ED, Viagra appears effective in treating sexual dysfunction caused by a variety of underlying problems including vascular disease, hypertension, diabetes mellitus, pelvic surgery (e.g., removal of a diseased prostate), spinal cord injury, and most notably a number of drugs including antihypertensives, diuretics, antidepressants, and antipsychotics. The cost of these medications is somewhat prohibitive, but under a variety of circumstances, Medicaid will pay for its disbursement. In contrast, a number of private insurance companies refuse to pay for this relatively expensive treatment, stating that sexual intercourse at a certain age "is not medically necessary."

Viagra represents the first oral treatment for ED, introduced by Pfizer in 1998. Initially developed for the treatment of angina or chest pain, Viagra failed to reduce chest pain but was surreptitiously discovered to increase blood flow to the penis and significantly increase the likelihood of an erection. Viagra, as well as the later introduced Levitra and Cialis, all work by inhibiting the body's PDE-5 enzyme. A primary function of the PDE-5 enzyme is to metabolize or break down the neurotransmitter cyclic guanosine monophosphate (cyclic GMP), which helps relax smooth muscle tissue. When PDE-5 is inhibited, more cyclic GMP remains available in the body which causes the walls of smooth muscle tissue, including arterial blood vessels, to relax and expand. With PDE-5 located primarily in the nose, skin, and penis, blockage of PDE-5 leads to an increase in cyclic GMP and related blood flow to those areas, leading to an increased likelihood of erection. With Viagra, men are typically instructed to take the "little blue pill" approximately 1 h before intending to engage in sexual activity with the expectation that an erection can be obtained within the next four hours (Pfizer, 2011).

Levitra was introduced next by Bayer in 2003 as a more selective PDE-5 enzyme inhibitor requiring a smaller dose of medication when compared to Viagra. Erections can sometimes be obtained within 30 min (Levitra, 2011), and users typically do not have dietary restrictions as cautioned with Viagra. (Fatty foods and alcohol can slow the absorption of Viagra into the bloodstream; Pfizer, 2011.) Cialis was brought to the market shortly after in 2003, and this PDE-5 inhibitor from Lilly offers an extended half-life when compared to its competitors. Specifically, a man who ingests Cialis has a 36 h window in which the drug remains in his blood stream long enough to help obtain an erection. Thus, Cialis is sometimes referred to as the "weekend [sex] pill" (Berner et al. 2006; Carson, 2006).

So, which PDE-5 inhibitor works best? Although this question is complex and must truly be answered with individual examination, diagnosis, and consultation with an appropriate health care professional, some facts are available for general consideration. Viagra has been on the market for more than a decade, with long-term data available regarding its efficacy and overall safety, whereas Cialis is the newest to market and does not offer the same wealth of empirical data. Levitra requires a

lower dose than Viagra and can be effective for men who have achieved only limited success with Viagra. Although Cialis offers the longest window of action for obtaining an erection, allowing for greater spontaneity in the initiation of sexual activity, the lengthiest terminal half-life of this PDE-5 inhibitor also means that any side effects also are likely to last longer (Carson, 2006). Similarly, side effects from Levitra may persist longer than those experienced with Viagra. A recent meta-analysis of clinical trials among the three available PDE-5 inhibitors taken at their maximum recommended dosages revealed that Viagra, Levitra, and Cialis each demonstrated significant clinical efficacy in improving erectile function when compared to placebo (Berner et al., 2006). However, not all men in all trials with these medications were able to achieve an erection; they were highly effective with most men *on average*.

Similarly, both large-scale clinical trials (Berner et al., 2006) and smaller clinical practice studies of Viagra (Marks et al. 2006) indicate that Viagra improved erections by 71–95%. Closer examination of the these results, however, reveal that men with ED with minimal dysfunction, who could occasionally have erections firm enough for penetration, had a significantly better response to the drug than men with more moderate or severe ED who had partial or no erections. In addition, men who had their prostate surgically removed did not respond as well to PDE-5 inhibitors, although some men who had the surgery in conjunction with a nerve-sparing procedure had greater success achieving an erection with treatment (40%; Marks et al. 2006). Overall, the greater the severity of ED, irrespective of its underlying etiology, the less likely the desired response to treatment with the drug became. Not surprisingly, the more severe the ED, the less likely the patient was to continue treatment with Viagra.

Interestingly, less than half of all men refill their prescription for PDE-5 inhibitors such as Viagra. Hypotheses for this failure of men to refill their prescriptions include general disappointment with the clinical effects, feelings that treatment is “unnatural,” attempting to achieve an erection too soon after ingestion, having insufficient arousal or physical stimulation, and the experience or fear of side effects (Porst et al. 2003). Identified side effects among all of the PDE-5 inhibitors are similar, including headache, stuffy or runny nose, flushing, nausea, muscle aches, photosensitivity, vertigo, and visual disturbances (e.g., blue or green tinted vision; Berner et al., 2006). In some men, the incidence of such side effects may diminish with use over time (Pfizer, 2011). Only one dose of the medication can be taken safely per day. Among older men, healthy men over the age of 65 showed a 40% greater concentration of Viagra in their blood plasma after use. It remains unclear whether older men are more likely to experience side effects compared to their younger counterparts.

Men taking PDE-5 inhibitors are advised to seek medical help immediately if they experience a sudden loss of vision or hearing, a painful erection or one that lasts for more than four hours (i.e., priapism), heart palpitations, chest pain, or breathing difficulties. Contraindications for use of this class of drugs include the presence of heart disease, recent stroke or heart attack, and high or low blood pressure. Men taking nitroglycerine or other nitrate-based medications also are advised

to avoid PDE-5 inhibitors (Porst et al., 2003). Various reports exist of men suffering heart attacks while using Viagra and other PDE-5 inhibitors (Goldstein et al. 1998), but researchers caution that statistically similar numbers of men suffer heart attacks during sexual activity without the use of the medications.

Anecdotal evidence indicates deaths from cardiac arrest or stroke have occurred in men who took Viagra without supervision from a physician, who lied about their current medical status in order to receive the medication, or who took Viagra in conjunction with recreational drugs such as amphetamines and cocaine. It is important for clinicians to remember that just because a man is "older," he may engage in the use of such recreational drugs and should be cautioned accordingly. In contrast, unrealistic and extreme fears about side effects from PDE-5 inhibitors may lead some men to avoid discussion of this potential treatment with their health care providers (Wentzell & Salmeron, 2009).

Myths and Misconceptions about PDE-5 Inhibitors

Misconceptions about use of Viagra and other PDE-5 inhibitors are common (Rubin, 2004) and can lead to lower clinical efficacy and cause frustration, discomfort, and even potentially dangerous outcomes. For example, many men and women are unaware that Viagra, Levitra, and Cialis have no (i.e., zero) impact whatsoever on sexual desire (Goldstein et al., 1998). In other words, PDE-5 inhibitors are not aphrodisiacs in and of themselves. A man must first become sexually aroused, which causes his brain to release nitric oxide from specialized cells. In turn, this nitric oxide causes the formation of cyclic GMP. Only after the man's sexual arousal is great enough to initiate the cascade of nitric oxide to the formation of sufficient amounts of GMP will the PDE-5 inhibitors help allow the blood vessels in the penis to relax and become filled with blood, causing an erection. If a man has low sexual desire or interest, Viagra and all the other PDE-5 inhibitors are essentially ineffective.

Even when a man who takes Viagra or other PDE-5s drugs becomes sexually aroused, additional physical stimulation, for a relatively long period of time when compared to previous sexual encounters before the occurrence of ED, may be required for the production of an erection. Because many health care providers fail to relay this vital information about the drug's method of action, requiring heightened emotional or psychological sexual arousal as well as direct stimulation of the penis in most cases, many consumers may become frustrated or disillusioned (McCarthy, 2001). Pfizer itself recommends that men try Viagra up to four different times before deciding to abandon use of the drug (Pfizer, 2011). It bears repeating that *when a man takes Viagra or any other PDE-5 inhibitor, an erection will not suddenly develop on its own*. Even with these powerful medications, sexual arousal and physical stimulation of the penis are typically required to produce an erection.

The quality of an erection associated with male-enhancement performing drugs also differs from that produced prior to the time a man experienced ED. Erections produced with PDE-5 inhibitors are generally not as firm as the erections men typically experience in young adulthood. In other words, the erections produced with the assistance of Viagra and other PDE-5 inhibitors typically become firm enough to engage in intercourse, but they are not the “rock hard” erections that many men (or their partners) might expect when taking the drugs.

Another misconception with dangerous and even fatal consequences is that Viagra and other performance-enhancing drugs provide protection against sexually transmitted diseases including HIV/AIDS. Understanding that PDE-5 inhibitors provide no protection whatsoever against STDs is particularly important for men and women over the age of 50, who typically do not see themselves as susceptible to infection. Because older adults are typically less familiar with HIV, less likely to have their health care providers talk to them about HIV, less likely to use condoms due to decreased fears of pregnancy, and more susceptible to HIV per exposure due to age-related declines in their immune systems, some researchers suspect that increased numbers of HIV infection among older adults can be linked, to some extent, with the use of PDE-5 inhibitors (Hillman 2008a, b).

Unfortunately, studies suggest that the recreational use of PDE-5 inhibitors among men who have sex with men (MSM) in urban cities is increasingly common and is associated with a greater likelihood of unprotected intercourse, illicit drug use, diagnosis of an STD in the past year, and sex with multiple partners (Sanchez & Gallagher, 2006). All of these aforementioned activities represent increased risk factors for contracting HIV/AIDS. Although such studies provide vital information about increased risk factors among certain segments of the population, it is important to note that virtually no data exists regarding prevalence or attitudes toward ED among aging gay, bisexual, and transgendered men, much less the use of PDE-5 inhibitors among MSM who are in long-term committed or monogamous relationships. Although some qualitative studies suggest that older gay men face considerable social pressure to maintain a more youthful physical appearance and consistent level of sexual functioning (Murray & Adam, 2001), it is essential not to generalize these emergent trends regarding recreational PDE-5 use and high-risk behaviors among promiscuous MSM in US urban centers members to the entire GBT community worldwide.

Another misconception is that men without ED who take Viagra and other PDE-5 inhibitors will heighten their sexual prowess, experience firmer erections, or avoid premature ejaculation. For men with normal erectile function, the recreational use of PDE-5 inhibitors does not produce any of these effects. Rather, the likely result of recreational use of these drugs is the development of a headache or becoming flushed. Taking above the maximum recommended dose of PDE-5 inhibitors in hopes of “extreme enhancement” or a more pronounced therapeutic effect also appears ineffective (Goldstein et al., 1998); the result appears to be even longer lasting side effects. Thus, the use of Viagra and related male-enhancement drugs among otherwise healthy men with normal erectile function for “extreme enhancement” or partying is certainly ill-advised.

Mass and Black Market Influences

Another confounding factor in the treatment of ED with Viagra and other PDE-5 inhibitors is the ability of many men (and their partners) to obtain the drug. Individual factors include ease of purchase, cost, and quality. Viagra and the other PDE-5 inhibitors can be obtained only by prescription in some countries (e.g., the UK and the USA), but can be readily purchased over the counter in others (e.g., Brazil). Even in countries that require a prescription for purchase at a pharmacy, some people turn readily to Internet pharmacies or other sources to obtain the medication. The approximate cost per pill of PDE-5 inhibitors at their maximum recommended individual dose is between$18 and $20 for Viagra, Levitra, and Cialis.

Additional concern exists regarding the presence of generic, knock off, or black-market versions of PDE-5 inhibitors, which cost significantly less than their prescription form. Counterfeit PDE-5 inhibitors now account for the majority of illegally produced pharmaceuticals; millions of these pills are seized annually, and most are sold over the Internet (Jackson et al. 2010). Although generic or nonbrand name drugs are expected to be of identical content and produced with similar levels of quality control as their brand name cousins, studies of confiscated drugs from domestic households, including those labeled as Viagra and Levitra, suggest that up to 25% of knock off or black market drugs deviate significantly from the expected content or concentration (Lown, 2000). Many such off market drugs for ED come in nearly identical packaging that is quite difficult to identify as counterfeit. These counterfeit PDE-5 inhibitors are typically contaminated with potentially hazardous substances including commercial paint and printer ink (Jackson et al., 2010). Even miscellaneous "herbal" or "natural" forms of Viagra fail to contain the necessary active chemical ingredients and may introduce their own series of adverse or side effects.

The mass marketing of Viagra and other PDE-5 inhibitors, with budgets approaching one million US dollars, and the formation of a "medical market" itself presents interesting subjects for analysis. One primary concern is that in a free market consumers are expected to be informed about the products available, be aware of differences in product quality, have bargaining power, and have the freedom to purchase what they desire. In a medical market, these assumptions are typically violated (Lown, 2000). Advertisers typically play upon men's fears about ED and associated perceived failures (e.g., inability to have an erection "on demand" either automatically or by strength of one's will) to please a stereotypically heterosexual partner. Academic symposia, including medical journal supplements, are often funded by the pharmaceutical companies who produce these drugs, offering what could easily be construed as a conflict of interest (Sigmund, 2002).

Direct-to-consumer advertising of these male performance-enhancing drugs only available by prescription in certain markets (e.g., the USA) also provides inherent challenges in the ability of potential consumers to arrive at the medically appropriate decision to seek treatment (Sigmund, 2002). Male patients may be more likely to breech the subject with their health care provider, but physicians may then spend most of their time with that patient explaining why that advertised medication is not

an appropriate choice for them. In contrast, men (and women) who purchase PDE-5 inhibitors via the Internet or over the counter, without the benefit of a medical exam and consultation, may inadvertently miss a valuable opportunity to detect and treat a serious, underlying cause for ED such as prostate cancer or diabetes.

Advertisements for Viagra and other brand name PDE-5 inhibitors, which boast annual marketing budgets approaching hundreds of millions of US dollars annually, also tend to portray healthy sexual activity as a significant source of male prowess and identity. Linking Viagra with male spokespeople including presidential candidates and professional athletes in soccer, baseball, and NASCAR as well as "ordinary" men fosters stereotypes and inappropriate expectations that the ability to engage in heterosexual intercourse is inexorably linked to a man's value and worth. Such advertising also promotes misconceptions that even normal, occasional difficulties with an erection represent ED, a medical disorder that can afflict even the young, healthy, rich, and famous, and thus certainly the average man. The focus of these advertisements appears exclusively upon a singular, apparently malfunctioning body part rather than the status of an entire person, much less the emotional and dynamic interaction between two people (Hillman 2008a, b; Sigmund, 2002). In many cases, these drugs are portrayed as the only viable solution to ED, which ignores more potentially complex, underlying health and relationship difficulties.

Impact Upon Partners

A critically important yet typically overlooked aspect of PDE-5 use is that of male users' partners. Efficacy studies typically involve heterosexual couples and suggest that female partners generally concur with their male partners' and physicians' ratings of the drugs' effectiveness (Goldstein et al., 1998). However, little is known regarding female and male partners' perceptions of the drug and its effects within the context of their own experience or relationships. Qualitative analyses of older women's interview responses regarding ED and Viagra reveal recurrent themes including the desire to expand the focus to male and female sexual and pleasure, a sense of sexual obligation in long-term relationships with men, the unfortunate equation of sexuality with masculinity, and continued surprise about the prominence of sexuality in Western culture (Conaglen & Conaglen, 2009).

Many older women interviewed about Viagra use mentioned that if the drug was not obtained in consultation with them, as the primary partner, many felt angry or obligated to engage in sexual intercourse when it was no longer that important to them or their sense of the relationship (Conaglen & Conaglen, 2009). These comments are consistent with general advisories for older women to communicate openly with their male partners about their feelings when Viagra or other PDE-5 inhibitors are introduced into the relationship, and for men and women to employ additional foreplay, lubricants, and a slower pace if sexual intercourse has not been a typical part of their sexual relationship to avoid discomfort (Hillman 2008a, b).

Still other women expressed frustration when their male partner expected them to provide additional physical stimulation of the penis to achieve an erection, particularly when they had become accustomed to greater cuddling and nongenital foreplay during the untreated periods of ED (Conaglen & Conaglen, 2009). (Even though a male partner may "be ready" for sex within half an hour, older women, in particular, often require a longer period of foreplay and additional lubrication in order to enjoy sexual intercourse without pain or discomfort.) In contrast, other women were thrilled with the resultant changes in their partner's ability to engage in intercourse, as well as their sense that their male partners felt more positive about themselves. In sum, it appears that female partners have both positive and negative responses to Viagra as a treatment for ED, and that communicating clear expectations for both emotional and physical responses and expectations between male and female partners is essential for a more positive outcome.

Medical Vacuum, Injectible, and Implant Therapies

PDE-5 inhibitors such as Viagra are typically employed as the first line of treatment for ED due to their relatively noninvasive nature. For men who do not wish to take these drugs, or for whom these drugs have not delivered acceptable results, more invasive, alternative approaches are available, including vacuum pump devices, injectible vasoactive drugs, and penile implants. Of these three treatments, vacuum devices appear to be most effective in cases in which vascular (i.e., cardiovascular) problems underlie ED (Galindo & Kaiser, 1995). Vacuum devices also appear moderately effective for ED related to diabetes and neurological disorders (Hellstrom et al. 2010).

A physician can prescribe the use of an FDA-approved vacuum device at a cost between approximately $200 and $500. Essentially, a cylinder is placed over the penis and a vacuum draws blood into the organ to create an erection. A clamp or band (i.e., a cock ring) is then placed at the base of the penis to maintain the engorgement of blood and the rigidity of the penis. Patient education is essential. Side effects from the use of vacuum devices can include bruising, numbness, and pain upon ejaculation. From a psychological perspective, many men are hesitant to use these pumps because they appear invasive and artificial, and because it is difficult to hide the use of such devices from a partner. Some patients also find that a combination of PDE-5 inhibitors and a vacuum pump provides a more acceptable level of symptom relief than use of either treatment modality alone (Hellstrom et al., 2010).

Another, more invasive approach to treatment of ED is through the use of self-injected drugs. A variety of injectable intracavernosal drugs such as papaverine HCI, phentolamine mesylate, alprostadil, and prostaglandin E can produce an erection in as little as 5 min that can last as long as 30–60 min. A major problem with this approach is that few of these drugs are approved for penile use by the FDA. Other problems include cost (up to $30 per injection), burning and pain at the site of injection, and, rarely, bruising, prolonged erection, and liver problems. Because both a high level of manual dexterity and visual acuity are required for proper

administration of these drugs, older men with arthritis or visual impairments may be unable to use this treatment. Some men are shocked to learn that the medication must be administered directly into the penis itself, rather than in the arm or buttocks; sometimes a partner can learn to give the injections.

Some men prefer these self-injectable vasoactive drugs over both vacuum devices and penile implants because their partners do not have to be involved in the treatment; they can maintain some level of privacy or secrecy in relation to their ED. Of course, it remains up to debate whether such willingness to hide ED from a partner is a simple matter of privacy or if it represents intra- or interpersonal difficulties. Studies regarding patient satisfaction indicate that among a sample of men with ED who did not achieve sufficient results with PDE-5 inhibitors, those who most satisfied with injectable vasoactive drugs included those who were older, had younger partners, and achieved a "fully rigid" penis after injection (Hsiao et al. 2011).

In cases of spinal cord injury, severe vascular or neurological disease, or when all other approaches have failed (Hellstrom et al., 2010), penile implant surgery may represent a last resort, as this form of treatment is most invasive. Penile implants are accomplished via expensive surgical procedures that may range in cost from $3000 to $5000. During the surgery, pockets are created inside the penis to allow silicone or saline-filled rods to be inserted along the length of the penis. Some of these rods require external inflation for erection to take place. A number of problems have been reported following these surgeries, including complications from anesthesia, scarring, and problems in operating the device. If an implant malfunctions and has to be removed, the odds of ED occurring as a result also are relatively high (Galindo & Kaiser, 1995). Middle-aged men have reported greater satisfaction with this procedure than older men, perhaps because older men are more likely to experience postoperative infection. Because this procedure is so invasive, urologists recommend that patients undergo psychological treatment both before and after the procedure (Mayo Clinic 2011a, 2011b, 2011c, 2011d, 2011e).

Integrated, Psychologically Based Approaches

Sexual intercourse or activity with or without any of the above medically based treatments to ED does not occur in a vacuum. The use of any medical treatment, including the typically noninvasive PDE-5 inhibitors, typically occurs within the context of a relationship. Improved communication between partners, as well as accepted changes to established rituals among long-standing partners regarding sexual initiation, often become necessary for both parties to resume and enjoy sexual relations.

Advertisements for male-enhancing drugs virtually always fail to mention that optimal treatment outcomes are more likely to occur when men with ED receive both pharmaceutical agents and couples-based sex therapy (Brooks & Levant, 2006; Rosen, 2000). Specifically, treatment of ED with both Viagra and sex therapy has been shown to provide increased erectile function and marital satisfaction when

compared to treatment with Viagra alone (Aubin et al. 2009). Relapse prevention also appears to be enhanced when treatment with a PDE-5 inhibitor is coupled with sex therapy. With the help of a trained therapist, men and their partners can become educated about positive, realistic expectations regarding the sexual response cycle of each partner, both with and without the use of drug enhancement. Therapists can also employ cognitive-behavioral techniques to help both partners view sexual activity as occurring within the context of a relationship rather than an isolated physical event revolving entirely around the ability to produce and sustain an erect penis.

In sex therapy, men and their partners can be helped to learn that periodic erectile failure, experienced both with and without the use of Viagra and other PDE-5 medications, is natural and to be expected. Once both partners have realistic expectations and view occasional disruptions and changes in the sexual response cycle as merely variations rather than cause for anxiety or alarm, they can be helped to plan for flexible and variable options in an expanded repertoire of sexual activity including intimacy, eroticism, and mutual and self-stimulation. Men with ED can also use Viagra and other male-enhancement drugs as an aid to masturbation. Experimenting with self-stimulation both with and without these drugs can help men regain a sense of confidence that can then transfer to sexual expression with a partner. Viewing a partner as a source of enjoyment and various forms of pleasure rather than a simple demand for an erection also is advised. Such an expanded perception of realistic and enjoyable sexual activity lends itself to enhanced relapse prevention of ED (McCarthy, 2001).

Even if men with ED do not seek out formal sex therapy in conduction with PDE-5 treatment, general education about the sexual response cycle alone in relation to increasing age delivered through formal workshops and even simple written materials appears to significantly increase the likelihood of help seeking behavior, communication among partners, and increased sexual satisfaction (Berner et al., 2006, Phelps et al. 2004). Physicians, other health care providers, sex educators, and even advertisers can be advised to include access to at least written or online educational material in conjunction with PDE-5 use. For health care providers who feel they do not have sufficient time or the personal inclination to discuss such matters at length with their male patients, results from these studies suggest that offering written materials to their patients would provide at least some benefit. (Certainly, a primary goal is to encourage physicians and other health care providers to garner some level of comfort in discussing sexual activity regularly with their male and female patients; Chun & Carson 2001; Hillman 2008a, b).

Regardless of the medical interventions used to treat ED, clinicians also must remember that *none* of the aforementioned, medical approaches to treatment provide protection against sexually transmitted diseases. It often becomes the purview of mental health practitioners to educate patients about the consequences of engaging in high-risk behaviors, or in assisting them in ceasing their particular high-risk behaviors (e.g., having unprotected sex with intravenous drug users or prostitutes). With few exceptions, most medical treatments do not call for psychological intervention, nor do they necessarily involve partner participation.

More general, psychologically based approaches for treatment of ED include desensitization in the form of sensate focus exercises (Masters & Johnson 1966),

anxiety reduction techniques, and general psychoeducation about sexuality and sexual performance. In many cases, fear of ED can become just as crippling as ED itself. In sensate exercises and anxiety-reduction techniques, couples are typically prohibited from engaging in genital stimulation and intercourse. Couples are given homework assignments in which they are to massage each other, take a lingering bath or shower, and explore each other's bodies without touching or stimulating their genitals. It is believed that by distracting the male from his internalized expectations about what is successful, he can become sexually aroused and paradoxically experience an erection (Cranston-Cuebas & Barlow, 1990). Such sensate focus therapies have been accepted and used widely as an effective means of reducing ED (Rosen & Leiblum, 1993).

Additional psychologically based treatments for ED that have garnered more empirical support, particularly among older adults, include cognitive therapies that incorporate basic sex education (Rosen & Leiblum, 1995). Sometimes simply identifying unrealistic expectations, highlighting normal age-related changes to the sexual response cycle (Wiley & Bortz, 1996), disavowing the central role of the penis in bringing pleasure (e.g., Zilbergeld, 1992), and normalizing the experience of help-seeking (Schover et al. 2004) allow couples to engage in more fulfilling sexual relations.

Fred

Fred was a 67-year-old man who believed that he should be able to achieve an erection and have sex with his wife at least two times a week. Mary, his wife of 43 years, agreed to come to couples therapy at the insistence of her husband. She did not quite understand why he asked her to come to "his sessions," since she believed that he had been coming to the geropsychology outpatient clinic for treatment of mild depression. She described their relationship as comfortable and easy going, and said that from the time they met at age 16, they "were destined to be sweethearts for life." Both husband and wife were community living and relatively free from illness. Fred did have mild hypertension, and his medication may have contributed to his inability to have erections consistently.

In one therapy session, Fred announced, "Last time I asked [my wife] if she was ready for her 'semi-annual,' she replied, 'Oh, you mean our annual semi?'" He took his wife's comment as an insult to his masculinity and a jab at his inability to consistently achieve erection. Fred thus felt compelled to try to have sex with her even more often to demonstrate his "abilities as a man," which further added to his performance anxiety. On discussion, he was quite relieved to learn that she did not base the quality of their sex life on his ability to penetrate her vaginally; she was quite happy to engage in vaginal intercourse on a more sporadic basis while maintaining their participation in foreplay and other activities. Mary also recognized that although her comment was "funny," it masked some of her previously unexpressed, angry feelings toward Fred. She had begun to feel "put upon" because Fred kept trying to

initiate sex when she wasn't always ready or "in the mood…just petting and watching television together in bed would have been good enough for me that night."

In conjunction with a referral to a urologist, the couple decided that Fred would experiment with Viagra in order to alleviate some of his concerns regarding ED. One important issue that the couple was able to agree on in therapy was that Fred and Mary were both to agree on the use of the medication *before* Fred took it, and that Fred would be primarily responsible for initiating these discussions. Mary maintained that she was happy with Fred "the way he was," but that she understood if he wanted to tryout this "new fangled medication…heck, I guess it can't all be bad…a little more fun never hurt anybody." Both Fred and Mary reported that they were able to "talk about this kind of thing" like they never had before, even when they were much younger. They both noted independently that "coming to the doctor" had helped them significantly because this topic was certainly not a topic of conversation among their friends.

Prostate Issues

Just as any responsible discussion of female sexuality includes a review of breast and cervical cancer, any responsible discussion of male sexuality must include information about prostate enlargement and cancer. Only within the past decade has increased attention been paid to these disorders of endemic proportions. Enlargement of the prostate gland, or benign prostatic hyperplasia (BPH), has been described as a symptom of viropause or manopause. Prompted by age-related changes in the production of testosterone, the majority of men can expect to experience BPH at some point in their lifetime. Autopsy studies of men over the age of 80 suggest that nearly 90% of all men from this age group present with an enlarged prostate (Boyle 1994). Findings from epidemiological studies suggest that 1 in 6 American males will develop prostate cancer at some point in their lifetime, and their risk increases significantly with age (National Cancer Institute, 2009). Additional risk factors for prostate cancer include a family history of the disease, obesity, and Black ethnicity (Mayo Clinic 2010a, 2010b, 2010c), although Black Caribbean men have higher rates of incidence than US born Black men (Bunker et al., 2002).

In the early stages, prostate cancer may not generate any apparent symptoms. In the more advanced stages, symptoms may include difficulty urinating, blood in urine, blood in semen, swelling of the legs, and pain or discomfort in the pelvic area. Significant controversy exists regarding the most appropriate method of screening for prostate cancer (Barry, 2008). A commonly employed screening method is via a blood test to detect the level of prostate-specific antigen (PSA) in the blood. A level above 4.0 ng per liter of PSA typically leads to biopsy or ultrasound of the prostate in order to make a more definitive diagnosis. Although a level above 4.0 represents the typical cut off for ordering a biopsy for many physicians, the level of PSA itself is age dependent, with 6% of healthy men in their 60s, 21% of healthy men in their 70s, and 28% of cancer-free men in their 80s expected to have levels of PSA above 4.0.

In other words, the possibility of false positives in PSA testing significantly increases with age (Welch et al. 2005). The risk of complications in response to biopsies, including incontinence, ED, infection, and increased mortality, also increases significantly for men over the age of 75 (Begg et al. 2002).

An additional form of screening is via a digital rectal exam, in which a health care professional inserts a lubricated, gloved finger into the patient's rectum and palpitates the prostate gland to detect any potential abnormalities in texture, shape, or size (Mayo Clinic 2010a, 2010b, 2010c). The digital rectal exam does not produce any physiologically induced side effects after the procedure. Many physicians employ both PDA testing and a digital rectal exam to provide a more comprehensive screening.

One of the most insidious barriers to appropriate diagnosis and treatment of both BPH and prostate cancer is the hesitation of middle-aged and older men to seek treatment for symptoms. (Socioeconomic status, including access to health care, also represents a limiting factor; Kudadjie-Gyamfi et al. 2006). Many older men appear to recognize the symptoms associated with an enlarged prostate, including frequent urination (particularly at night), painful urination, difficulty in stopping urination, intense urges to urinate, urinary retention, incontinence, and difficulties in achieving an erection. However, many fail to seek medical attention until their sex lives are affected. One 70-year-old man cited, "I don't care if I have to get up at night five times to go to the john. I just don't want my 'other functions' to start going, if you know what I mean." Reflecting the narcissistic injury inherent in the disorder, one 81-year-old man retorted, "Who gives a shit anyway; I know I'm old. So I probably have [prostate cancer]…I don't need to have my nose rubbed in it, too."

Although the most effective test for assessment of BPH appears to be a rectal examination as compared to the antigen blood test (Lee and Oesterling 1995), some men decline to see their physician or other health care professional based upon significant anxiety and fear about the rectal examination itself. Some men fear that assent to the rectal exam suggests that they may be gay, or they may have fears that they will somehow "like it" or become aroused and embarrass themselves in front of their physician. A particular concern among Latino men, who have some of the lowest rates of screening among various ethnic groups (American Cancer Society 2011), is that they will lose their manliness (i.e., machismo) if they passively accept penetration of anything into their rectum, indicating that they are gay. For men without access to health care and accurate information about prostate screening, additional fears may stem from inaccurate beliefs that a rectal exam will cause both ED and incontinence. In recent qualitative studies, some Latino males have noted that they would consider the digital rectal exam only as an absolute last resort (Rivera-Romas & Buki 2011). The open discussion of men's fears and concerns, as well as the delivery of psychoeducation, appears essential in order to help minimize existing disparities in prostate cancer screening.

Another challenge to engage older men in screening for prostate cancer is the fallacy that treatment for prostate cancer leads to outcomes that are worse than living with the cancer itself. As noted by one 66-year-old who rationalized, "I heard that you can live with this for a long time…and that when they cut it out you lose it

anyway [develop ED], so what's the point in knowing if I have it?" Unfortunately, the revised guidelines from the US Preventive Services Task Force, mandated by Congress, in which screening for prostate cancer via PSA testing is *not* recommended for men aged 75 and older (U.S. Preventive Task Force, 2008), will likely contribute to the challenge in getting older men to report symptoms and to have medical professionals respond. The use of such government-mandated guidelines in relation to PSA testing for prostate cancer represents one of the most controversial aspects of modern medicine (Barry, 2008).

Fortunately, a variety of treatments have been developed to combat both BPH and prostate cancer. These include coagulation therapies and laser therapy. For cancers in the early stages, radiation treatments and surgical removal of part or all of the prostate gland may be used. Additional approaches used by some medical professionals include "waiting it out" because the presence of BPH does not guarantee the emergence of prostate cancer (c.f., Barry, 2008). Treatment for advanced prostate cancer may include chemotherapy or androgen-deprivation therapy (ADT), in which specific hormones are prescribed to interrupt the supply of testosterone to growing cancer cells.

Unfortunately, common side effects of these aforementioned treatments and particularly chemotherapy and ADT, include osteoporosis, anemia, weight gain, loss of muscle mass, breast tenderness, hot flashes, fatigue, and depression (American Cancer Society, 2007), as well as a decrease in libido and ED (O'Connor & Fitzpatrick, 2006). To complicate matters, surgical removal of part or all of the prostate gland can induce significant side effects such as localized pain and swelling, a frequent need for urination, and even incontinence and ED (Mayo Clinic 2010a, 2010b, 2010c). Additional side effects from any of the aforementioned treatments also may include rectal difficulties including loose stools or pain during bowel movements (Mayo Clinic 2010a, 2010b, 2010c). Interestingly, a recent qualitative analysis of men living with prostate cancer indicates that the fatigue brought on by hormonally based treatment presented more of a challenge to their daily coping and life satisfaction than other treatment side effects such as ED (Jonsson et al. 2009).

Misinformation, fear, and denial play a significant role in poor compliance with both diagnostic and treatment protocols. The assistance of a mental health practitioner may be the key factor in allowing older men to cope with the anxiety surrounding the screening procedures and the potentially impending diagnosis of prostate cancer. Mental health practitioners can be invaluable in assisting older men and their partners in gathering accurate information and reviewing various options for treatment more effectively with their medical providers. For example, some types of prostatectomy (e.g., making an incision in the abdomen versus the perineum) are less likely to cause nerve damage and resulting incontinence and ED than others (Mayo Clinic 2010a, 2010b, 2010c). An interdisciplinary approach, including both medical and mental health professionals, would certainly help produce more positive patient outcomes. Even basic psychoeducation for men with prostate cancer appears to confer benefits, and men in distress, with lower levels of self-esteem and depression, appear to benefit just as much or even more from psychoeducation than their more well-adjusted peers (Helgeson et al. 2006).

It also becomes essential to treat prostate issues as a couple's issue (Bronner et al. 2010; Harrington et al. 2009) whenever a partner is involved. Although few empirical studies are available for review, martial satisfaction and greater daily positive mood was reported among both older husbands coping with prostate cancer and their wives when engaged in collaborative coping (i.e., joint problem solving) strategies (Berg et al. 2008). Therapeutic couple's work can be used to help prostate cancer survivors and their partners join resources to foster mutually productive strategies for coping with increased fatigue and other stressors in relation to the husband's cancer treatment and its side effects. If ED occurs as a result of the cancer or its treatment (as in the case of some invasive surgeries), various forms of treatment appear effective including traditional sex therapy, cognitive-behavioral approaches, PDE-5 inhibitors, vacuum devices, injectible vasoactive drugs, and penile implants (Mayo Clinic 2010a, 2010b, 2010c). Despite these advances, it also is important to note that virtually no studies are available that examine the impact of prostate screening and cancer upon gay, bisexual, or transgendered individuals or couples.

Body Image

Because women are traditionally viewed as sex objects who are supposed to remain thin, beautiful, and youthful in order to gain companionship and vital resources, men's concerns about body image, body functioning, and overall appearance are often overlooked as minimal or unimportant. The vast majority of empirical research on body image takes place with female participants (Pope et al. 2000), with only limited findings available from studies involving typically White middle-aged and older men (Peat et al. 2011). A commonly overlooked problem among older men is that of distortions in body image. Some of the more distressing age-related changes for men are likely to include an overall decline in physical strength and musculature, male pattern baldness, and gynecomastia (enlargement of the fatty tissue of the breast).

Empirical studies have suggested that although men view their bodies in a variety of ways, they often focus on three primary aspects of their body: upper body strength, physical stamina, and level of attractiveness (Brown et al. 1990; Franzoi and Shields 1984). The few empirical studies that exist regarding older men's body image suggest that throughout midlife and old age, men appear to place significantly less emphasis on their body image than women (Peat et al., 2011). Consistent with these findings, the vast majority of young and older people suffering from eating disorders are women. However, a small percentage of those afflicted are men, who are equally deserving of clinicians' and researchers' time and attention (e.g., Van Deusen 1997).

Like their female counterparts, men with anorexia and bulimia tend to choose an inappropriate ideal for their body image which is too thin for their normal height and body frame (Barry and Lippmann 1990). Many times older male patients who lose a significant amount of weight in a short period of time are assumed to be just

depressed or "[physically] sick." Stereotypes persist that elderly adults simply lose interest in food and other activities as they age. It becomes vital for informed clinicians to assess for the presence of distortions in body image or a related eating disorder whenever conducting an initial interview.

Another common concern among older men is that of baldness (e.g., Morley 1996). Male pattern baldness has generated a multimillion-dollar industry that boasts realistic and unrealistic claims for treatment including toupees, hair transplants, and drug therapies. The fact that this is a multimillion-dollar industry highlights the psychological difficulties that many middle-aged and older men endure as they experience hair loss. One 76-year-old man commented, "Well, I can cover up the rest of me with nice suits and shirts and things, but I can't do too much with this chrome dome…I don't like wearing a hat inside, and besides, I'm afraid that wearing a hat will make me lose even more hair…My wife doesn't seem to mind, but it does get to me every now and then." It also remains unclear why some older men adjust well to hair loss whereas others do not. Some men indicate that baldness is a problem because it makes them unattractive to women, whereas others point out that every time they look in the mirror, they are given a painful reminder of their aging bodies, even if they had been feeling good about themselves the moment before they glanced in the mirror. On a practical level, other middle-aged and older men cite concerns about sunburn and the increased risk of skin cancer on their exposed scalps.

A significantly less discussed but equally problematic age-related change for some older men is that of gynecomastia (Morley 1996). The majority of men experience either a subtle or dramatic change in the fatty composition of their chest, specifically in their breasts (Carlson 1980). This increase in fatty tissue may first present itself in one breast only, and may require a visit to a physician to rule out breast cancer. Traditionally, this increase in fatty tissue takes place in both breasts and is, for better or worse, a sign of normal aging. The only available medical treatment is breast reduction surgery; hormonal treatments do not appear to be safe or effective (Carlson 1980). Some older men simply respond to this body change by noting, "Well, it's about time for me to get old and flabby, I guess." Others attempt to hide their chests by wearing large shirts or suits with heavily padded shoulders. One 83-year-old man articulated his distress by stating, "I mean, I look like a girl…it's embarrassing just to take my shirt off. I don't even know the last time I went swimming." Sometimes educating the patient about the normality of this event is enough to allow him to feel more comfortable with his body's changes. At other times, a discussion of these issues leads to important therapeutic work in differentiating male and female roles, identifying distortions in body imagery, and uncovering homophobic or homosexual tendencies.

Summary

An essential goal in work with men regarding sexual issues is for both patients and practitioners to recognize that male sexuality encompasses significantly more than the ability to have an erection or the number of times per month one has intercourse.

The multimillion-dollar industry of PDE-5 inhibitors such as Viagra and Cialis now fuels increased demand for prescription, black market, and over-the-counter treatment for ED. Unfortunately, lack of knowledge about these medications as well as lack of communication between medical providers and patients about exactly how they work can lead to inappropriate expectations for a miracle cure as well as disruptions in established relationships. Additional difficulties ensue when partners are not included in treatment.

Despite the increasing medicalization of male sexuality, mental health providers continue to have a pivotal role providing appropriate care and psychoeducation for our male patients, and the ability to help male clients to expand their own views of what represents healthy sexuality. Many men are unaware of the normative, age-related changes that occur with their sexual response cycle as well as the myriad of medical disorders (e.g., high blood pressure, obesity, diabetes), prescription, and over-the-counter medications that can lead to ED. Additional factors that deserve consideration in any discussion of male sexuality include body image (from concerns about musculature to male pattern baldness) and prostate health. In sum, an integrated approach that incorporates medical, psychological, and educational components, in both an individual and couples' context appears most effective in helping men cope with issues related to their sexuality and aging.