ABSTRACT: Male-to-female transgendered clients often seek the services of a speech-language pathologist in an attempt to reduce the discrepancy between their new feminine gender role and their masculine vocal and communicative behaviors. In addition to a knowledge of phonation, vocal tract parameters, and the linguistic and social markers of femininity, it is important for the clinician to acquire an understanding of the life experiences of transgendered clients in order to provide thoughtful, effective therapy. This article provides information about the person and process involved in this life change: terminology used, the process of transition, psychological issues, standards of care, and experiences in the world of gender dysphoria. It also presents considerations that should be taken when conducting the interview and establishing treatment goals. A review of literature on speaking fundamental frequency, frequency range, intonation, resonance, current intervention considerations, and outcome data is included.

KEY WORDS: transsexual, gender dysphoria, speaking fundamental frequency, frequency range, intonation

Working With Male-to-Female Transgendered Clients: Clinical Considerations

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For the speech-language pathologist encountering a transgendered client for the first time, the experience may seem daunting because the client is part of an unusual population and therapy requires a range of knowledge beyond the traditional voice therapy models involving vocal tract pathology. Transgendered individuals increasingly represent a small percentage of the caseload of speech-language pathologists with a specialty in voice disorders. Working with transgendered clients in the area of voice and communication skills can provide the clinician with significant opportunities for professional and personal growth.

Prior to working in the area of gender-related communication issues, it is important to have an understanding of the life experiences the client may bring to the therapy process. The particular history, questions, and expectations that transgendered clients present may well alter the direction and outcome of therapy, so a broader understanding of the person is essential in order to provide effective, insightful treatment.

BACKGROUND

Transsexual clients are sometimes referred to university clinics where they are seen for voice therapy following a protocol established at that university (Gelfer, 1999). Others may be directed to therapy as part of a gender dysphoria medical treatment program. Self-referrals, or referrals within the gender community from other transgendered clients, or from psychotherapists in private settings, are not uncommon.

In this author’s private practice, this type of work began with a self-referring phone call in 1979 from “Betty,” who identified herself as a male-to-female (MTF) transsexual seeking to sound more like a female. Our exploration together, and referrals by her psychotherapist, colleagues, and other members of the gender community, has resulted in a small but steady influx of transsexual clients seeking voice therapy, representing 5% to 10% of my practice. Since 1979, more than 250 transgendered clients ranging from 19 to 67 years of age have been seen in this
practice. Although four self-identified as transvestites, the overwhelming majority have identified themselves as MTF transsexuals seeking information, evaluations, or short-term or longer term voice therapy.

The range of referral sources in private practice for this population is impressive. There is clearly a network of organizations and chat rooms over the Internet, so once a clinician is identified as a capable professional, referrals occur. One client, an American oil company employee, contacted this office by e-mail from Saudi Arabia, where cross-dressing is punishable by death. Other individuals have come for intensive work from other parts of the country or outside the United States, sometimes arriving with invitations to provide workshops at organizations in their area. This has opened up an entirely new area of professional and personal growth for me, and clinicians should be encouraged to work thoughtfully with transgendered clients.

GENERAL TERMINOLOGY

It is important for helping professionals to be familiar with the terminology used and the distinctions created when considering the world of gender expression. Not all of these terms are universally accepted, and only a partial consideration of some of the pertinent terminology is presented here.

Gender dysphoria is a term that connotes discomfort with one’s socially and culturally assigned gender role. Dysphoria is derived from a Greek word meaning “hard to bear” (Brown & Rounsley, 1996, p. 10). Gender dysphoria is sometimes used as a synonym for transsexualism because it refers to the discomfort and distress that transsexuals experience. Male and female are biologically assigned categories based on chromosomal patterns and genitalia at birth. Masculinity and femininity are gender terms that attempt to address prevalent behavioral expectations and conventions within a society (Andrews, 1999). Sexual preference or orientation is still another construct that is not necessarily aligned with an individual’s biological characteristics or gender expression (Money, 1988). Some individuals believe there may be three different continua, and an individual may be at different points along each continuum.

This is a helpful way to consider these issues because many clients view themselves as somewhere on one or several of these continua. There are variations in the expression of these dimensions between cultures, and “cross-dressing” in the clothing of the opposite sex has long been expressed in many cultures. Andrews (1999) mentioned the historical cross-dressing within Shakespeare’s plays, in Noh and Kabuki Theater, and in English burlesque. Garber (1992) noted “gender blending” seen in the androgyny and sometimes cross-dressing of contemporary entertainers as deeply rooted in our culture.

The terms transvestite or cross-dresser refer to males who dress as females and females who dress as males. The term transvestite usually implies a relationship between erotic desire and dressing, but a cross-dresser is a more inclusive term that refers more broadly to anyone who cross-dresses for a variety of particular occasions, but not as a full-time life change. Drag is considered to be an acronym for “dressed as a girl” (Andrews, 1999), and it is a term often associated with theatrical or campy display. However, drag queens are not the same as transsexuals, and many transsexual clients in this practice have presented as shy and somewhat reserved, with significant concerns about blending in and “passing” as female without calling attention to themselves. Another term, transgenderist, is used to mean a person who is living full time in the opposite gender role or cross-living. The term used with the client population seeking voice change is transsexual because the majority of clients seeking voice therapy will self-identify as transsexual.

According to Brown and Rounsley (1996, p. 6),

Transsexuals are individuals who very strongly feel that they are, or ought to be, the opposite sex. The body they were born with does not match their own inner conviction and mental image of who they are or want to be…. This dilemma causes

SOME CONSIDERATIONS

Most voice therapy with this population has occurred within a private practice setting, where clients pay for their services directly because it is not a covered benefit under health insurance in the United States. San Francisco, however, has very recently become the first city in the United States to extend health benefits to city workers to cover part of the costs of sex reassignment surgery (Gordon, 2001). Currently, voice therapy is not a covered benefit.

Speech-language pathologists are likely to be consulted almost exclusively by MTF transsexuals who wish to acquire more feminine speech and voice patterns in order to reduce the incongruity between their gender role (female) and their biologically driven vocal and communicative presentation (male). Because the use of androgens with female-to-male transsexuals results in a drop in speaking fundamental frequency and a masculinizing of the voice, speech therapy generally is not required. The opposite, however, is the case for MTF transsexuals, because the introduction of feminizing hormones does not feminize the voice or alter the male vocal tract changes, which are already established by adulthood.

The average age at which clients first seek professional guidance for their transsexualism is 30 years (Blanchard, 1994). Many of the clients have been previously married with children, and Gelfer (1999) noted that speech-language pathologists should not be surprised if their transgendered clients are older and are currently or have previously been married or have children.

One special consideration in the world of private practice may be the heightened need to work rapidly and efficiently, to “cut to the chase” and reach salient tasks, producing results as quickly as possible. This occurs because of the clients’ financial considerations, and also the pressure they often feel to move forward with voice changes that are more congruent with their gender, sometimes accelerated by major job or personal life changes.
them intense emotional distress and anxiety and often interferes with their day-to-day functioning.

The conviction of being born in the wrong body is profound. Being “trapped” or “imprisoned in the wrong body” is frequently described unless the situation is corrected with hormones or sex reassignment surgery (Brown & Rounsley, 1996). The authors make a very powerful case for the fact that transsexuals may “report similar life experiences as a result of their condition, but they are by no means all cut from the same cloth. There is no such thing as a ‘typical’ transsexual. Transsexualism knows no boundaries: it affects people of every race, religion, and socio-economic class and exists in every country of the world” (p. 8).

**NUMBERS**

There are no reliable methods of gathering accurate statistics on the prevalence of transsexualism because there is no national registry and many transgendered people do not seek sex reassignment surgery. It was long thought that transsexualism was almost an exclusively MTF phenomenon. More recently, there has been disagreement about what the ratio is and why. “Some gender clinics and therapists report the Male to Female (MTF) and the Female to Male (FTM) ratio to be 3:2. Others report seeing an equal number of male and female transsexuals” (Brown & Rounsley, 1996, p. 9).

Fortunately, starting with the concerns and pioneering interventions of Benjamin (1966), a New York endocrinologist and sexologist in the mid-1960s, there is now a better understanding of transsexualism, and standards of care have been established for individuals struggling with gender dysphoria.

**MTF TRANSSEXUALISM**

A speech-language pathologist working with transgendered clients will be working with MTF transsexuals because the changes in the larynx occurring during puberty in males are not reversed by the introduction of feminizing hormones. Thus, the client must deal with the discrepancy between the male voice and the desired physical appearance and presentation as a female. Many clients report an awareness of their gender difference and discomfort about their gender identity in early childhood. The physical changes accompanying adolescence thus make puberty in particular a time of great struggle marked by conflict, shame, secrecy, and feelings of being different.

The autobiographies of transgendered people (McCloskey, 1999; Morris, 1974) discuss issues of self-esteem and questions of coming into conflict with their own and society’s discomfort with these gender issues. Many clients may provide personal anecdotes that poignantly describe years of attempting to be “supermacho” as a way of repressing these desires. Brown and Rounsley (1996) noted that many MTF transsexual clients seek out overtly masculine professions such as law enforcement, auto or airplane mechanic, steel mill work, heavy construction, and often the military service in an attempt to deny their powerful struggle and repress their deeper conflicts. More recently, computers provide employment opportunities that sometimes bypass personal interactions in the workplace. They also provide a valuable place to exchange information and experiences.

Heather’s story illustrates some of the powerful feelings and forces at work in this process:

I joined the military twice, the Air Force Reserve for 6 years and then I tried to be a biker, which is a more macho thing. I did that for 3 years and then I joined the Coast Guard. The reason I joined the Coast Guard wasn’t to try to be macho, but just to try to prevent myself from thinking about how I felt. But then, after about 5 years in the Coast Guard, the pressures had gotten way too hard to deal with. I had a nervous breakdown and I was suicidal. On a day when I just couldn’t take it anymore, I was overworked, pushed to the limit by my supervisor. I blew up and told who I was.

I think I was probably close to 8 or 9 when I knew. It started to feel almost like I was on the wrong side. When you’re in elementary school, the boys hang out with the boys and the girls hang out with the girls. And I always saw the girls over there hanging out, doing their things together, and I just felt like I should be with them. I wanted to do what they were doing. I wanted to talk with them about things that they were talking about. It almost felt like an obsession because you couldn’t be there. You knew, somehow, and I’m not even sure how you know this. But you do somehow know that crossing that line gets you into trouble.

Often, the decision to transition and “come out” to family and friends involves risking family rejection, divorce, and child custody or contact issues. Losses in career advancement and reversals in employment levels are not uncommon. However, many clients view the outcome and life changes as very positive, despite the personal costs involved. One client, a physician, shared her experience:

I knew something was wrong by the age of 5 or 6. I think that’s pretty standard. In other cultures, I could perhaps have found words to describe what I was and what I was feeling more easily. But growing up in a New England puritanical household made that almost impossible. Despite that, I had identified myself as transgendered by my teens. I read Benjamin’s book the year it came out—the same year I graduated from high school. Nonetheless, I couldn’t bear to tell anyone about it. I kept it secret.

Many of us can remember a specific instance when we decided to transition. I recall one night sitting in a very nice, but very lonely apartment in Pacific Heights, when I realized that the person that I was suppressing was actually the best part of me. She was all of the people that I had ever admired, and she was me.

The actual transition took about 3 years. I would estimate that the total out-of-pocket cost was about $75,000. That includes surgery, electrolysis (the most expensive part), clothes, legal expenses, etc. In addition, there was the cost of the impact on my career. (I am not unusual in relocating.) I was fortunate in that it had little impact on my relationships. My brother has yet to come to grips with it. My parents are dead and I think one of the reasons I waited was that I did not want to offend them. Friends almost always stick by you.

Why do it? The reason actually doesn’t have much to do with gender, and hardly anything to do with sex. You really do it in
order to be yourself. If, as a male, I could say everything I had to say, and ask for everything I wanted and needed, then transition wouldn’t have been necessary. But we speak and interact with others through our gender, and that filters what we can do and say. The rewards? Being able to be yourself.

**STEPS ALONG THE WAY:**

**THE PERSONAL PROCESS**

The personal and financial “cost” of not transitioning to live full time in the opposite gender role is at the core of every client’s struggle. For most, the psychological cost of not living in the desired and authentic role, of keeping it a secret, is far too great. Depression is common, along with conflict, elation, and anxiety, particularly during the tumultuous period of beginning to cross-live, going through transition that involves risking ridicule or lack of acceptance from family, friends, and coworkers. At the same time, many clients report finally feeling “at home” in their feminine attire and gender role, and often describe a sense of relief, integration, and wholeness. The steps in this process are numerous, with transsexuals moving through some or most of them at widely varying rates.

- **Psychotherapy.** Most transsexuals are working with a psychotherapist who is trained specifically in the area of gender dysphoria issues. The process clearly involves coming to terms with how the client perceives herself along the continua discussed earlier.

- **Cross-dressing and cross-living.** The client may be in the early stages of dressing in the world as female, perhaps on weekends, or may be presenting to the world as female full time. Sometimes, it is necessary in some personal roles (e.g., parent, work) to continue as male for a time, but the ultimate goal of most transsexuals is to be living as a woman all the time. This represents wholeness, integration, and honesty, because the person is no longer living a lie.

- **Beginning electrolysis.** The introduction of electrolysis is necessary because it is the only way to remove facial and body hair permanently. It is a long, expensive, and uncomfortable process, depending on the amount of facial and body hair to be removed.

- **Beginning hormone therapy.** Transsexual clients usually obtain hormones from an endocrinologist or other physician who prescribes and monitors the dosages. The use of estrogen and progesterone with MTF transsexuals results in some development of breasts and changes in the distribution of body fat. Sometimes, breast implants are obtained. Hormone therapy, however, does not change bone structure, so such features as large hands or shoulders may remain as a body image issue for some clients. Significant mood changes occur with the use of estrogen, not unlike the experiences and variations reported by biological females.

- **Plastic surgery for cosmetic changes.** Some clients have surgery to reduce the masculine thyroid cartilage prominence. Others have facial reconstruction to change the contours of the forehead, cheekbones, and mandible in order to obtain more feminine facial structure.

- **Voice therapy.** Many clients seek the services of a speech-language pathologist because they dislike sounding masculine and they seek some direction in changing their voices to sound more feminine. Often, the client’s expectations and assumption of stereotypical “feminine” characteristics of voice and speech must be carefully explored.

- **Vocal fold surgery.** In some instances, the client may seek surgery, which increases the tension of the vocal folds. The results of phonosurgery or laryngeal framework surgery to date are highly variable and will be discussed briefly.

- **Sex reassignment surgery.** For some clients, the ultimate goal is to have sex reassignment surgery. For others, the step is never taken or deemed necessary to obtain their personal goals. For the MTF transsexual, the surgery involves vaginoplasty, which is the construction of the vulva and vagina, with two standard methods used for creating a vagina, frequently using penile inversion as a method of inverting the skin of the penis to create the lining of the vagina.

- **Changes in employment.** Transsexual clients experience many different working situations. Many clients attempt to make a totally new beginning, wishing to be known only as a female in a new work setting. Others try to make the transition on the job. Several clients from this practice have written impressive procedural manuals for the human resources departments in their corporations. Questions range from general policy (Which restroom will they use?) to personal considerations (How do they want to be addressed? Are they willing to discuss their experience?). One client, a physician, made a particularly impressive transition in her workplace. She mailed out 450 professional announcements stating her new office, new name, and new gender, and included her responses to a short list of frequently asked questions. Others wish to be completely private. It is very important to know the client’s wishes regarding confidentiality. This includes clarifying what name to use when calling the client at work or home regarding appointments or follow-up.

**Standards of Care**

In the United States and abroad, there are a few clinical programs available that include social service, psychiatry, and, ultimately, sex reassignment surgery. For the most part, surgeons who follow the standards of care receive referrals from independent practitioners. In order to qualify for sex reassignment in the United States and abroad, a client must meet the standards of care established in 1979 by the Harry Benjamin International Gender Dysphoria Association. These standards were established to help
professionals treating transsexuals to provide a minimum set of guidelines to be met before clients proceed with hormone therapy, and, ultimately, sex reassignment surgery. The standards of care are as follows (Brown & Rounsley, 1996, p. 202):

- The person must have been under the care of a therapist for at least 1 year.
- The person must have been appropriately diagnosed as gender dysphoric.
- The person must have completed a real-life test by living in the opposite gender for at least 1 year.
- The person must receive a written referral from her primary therapist and a second referral from a clinician other than the therapist. At least one of the two therapists must hold a PhD or MD.
- The person must be in good physical health.

These standards of care were established to allow the client enough time to be accurately diagnosed because gender dysphoria can present itself as part of a variety of other conditions. The real-life test provides individuals with a kind of “trial run” to see how effectively they function in their desired role. The standards were developed to protect individuals from making impulsive or ill-advised choices. Should legal issues ever occur over such things as the use of public restrooms, clients carry a letter certifying that they are transsexual and under professional care. Many clients complete the requirements and seek private sex reassignment surgery in several specialized practices in the United States, Canada, Western Europe, and Thailand. For many clients, sex reassignment surgery is the ultimate goal, and an important part of counseling involves making certain their expectations are realistic about what surgery will and will not accomplish.

One begins to appreciate that transsexuals frequently feel they have no choice and must be true to themselves and live in the gender role they feel is their destiny. In the midst of the anguish and profound struggle to come to terms with their issues, they arrive at the decision that they must proceed. All of the costs, involving electrolysis, wardrobe, grooming, therapy, hormones, surgeries, emotional upheaval, and risked rejection from family, friends, and colleagues, must be faced. There is no other acceptable choice.

Working With Other Professionals

As has been stated, there is no “typical” transsexual. Clients may arrive for voice and communication therapy at various stages in their transition, sometimes struggling with depression or the upheaval involved in family rejection, divorce, child custody battles, and so forth. At times, they may be understandably depressed or preoccupied by concurrent stresses in their lives. This may require a temporary interruption in the voice therapy process. It may occasionally be advisable to delay therapy until the client is more fully able to give the attention and effort required to pursue therapy tasks. It is far more difficult to work on achieving a higher speaking fundamental frequency or increased intonational changes if the client is battling significant upheaval or depression. This must always be jointly considered, with the wishes and urgency of the client’s needs in mind. There is sometimes a genuine time pressure to achieve some vocal changes prior to the beginning of a new job or move to a new area, involving a new identity.

Although speech-language pathologists have some background in counseling, it is important to be aware of professional boundaries and when it is appropriate to refer the client back to the psychotherapist. It is, however, vital to create a climate where clients can feel safe and supported, particularly when endeavoring to explore vocal and communicative changes that are fraught with feelings of newness, insecurity, and sometimes phoniness, as they struggle with entirely new communicative behaviors. Because the voice is linked so closely with a sense of the self and so quickly mirrors stress, anxiety, or depression, it is vital to pay attention to signs of such stress. It is also important to recognize the valid concerns a client might express about not sounding “real” or not sounding acceptably feminine. This must be given due consideration and recognized as part of the gradual process of change.

However, the underlying role of psychological support and direction is provided by a trained psychotherapist with expertise in the area of gender dysphoria. It is important to identify this professional when obtaining a history and to obtain permission to exchange information, should it be necessary at some point in treatment.

In addition to contact with the psychotherapist, the speech-language pathologist may have contact with oto-laryngologists, endocrinologists, electrologists, or surgeons involved with the care of the client. Although this does not occur frequently, there are sometimes matters that warrant such contact, such as laryngeal or respiratory concerns, attention to a deviated septum, or thyroid cartilage resection as part of the plastic surgery procedures.

Recommendations at the Beginning

Based on extensive clinical experience with this population, the following are some suggestions for clinicians working with transgendered clients.

- Do your homework. Read some of the helpful material about transsexualism that is fortunately now available (Brown & Rounsley, 1996; Docter, 1988; Kirk & Rothblatt, 1995). Become familiar with some of the writing on communicative strategies and differences in communication styles based on gender. This includes chapters and papers that describe the vocal, linguistic, paralinguistic, and cultural constructs involved in what we perceive as masculine and feminine (Arliss, 1981; Key, 1975; Lakoff, 1975, 1990; Lynch, 1983; Tannen 1990). Autobiographies are often compelling and informative (McCloskey, 1999; Morris 1974). A number of articles (Dacakis & Oates, 1998; Gelfer, 1999; Oates & Dacakis 1983, 1997; Wiltshire, 1995) also look at the stereotypical indicators of gender, as well as some research that supports some, but not all, of these stereotypes to varying degrees.

Freidenberg: Working With Transgendered Clients 47
• Maintain an open mind and a sense of empathy for what your client is going through. If a clinician has significant psychological or religious reservations about working with a client, it is vital to provide an appropriate referral when those personal issues interfere with providing appropriate clinical care. According to Dr. Lin Fraser (personal communication, October 5, 2001), a psychotherapist with 28 years of experience working with transpeople, “Most transsexuals quickly detect any feelings of discomfort or rejection on the part of the clinician. It is normal to feel uncomfortable around transpeople at first. It is important that you examine your own biases. The client will be very respectful of your curiosity if you are not judgmental. The best people to work with transpeople are individuals who are curious, interested in people and comfortable with diversity. Compassion and empathy are very important.”

• Establish any ground rules you may feel are needed, before the client is seen. Often, voice therapy has been recommended by a psychotherapist, and the speech-language pathologist may request that the client continue in concurrent psychotherapy during the course of speech and voice therapy. It is reasonable to require that the client arrive dressed in the female gender role, something most clients strongly prefer. However, sometimes a client may still be working as a male and may need to come directly from work. The psychological incongruity created for the therapist by working on feminine characteristics with a client in a masculine presentation may present discrepancy issues for the clinician.

• MTF transsexual clients, in my opinion, should be treated by female speech-language pathologists. Throughout the therapy process, the client emulates the modeling that is provided by a female, both consciously and unconsciously. As part of their program in Amsterdam, DeBruin, Coerts, and Greven (2000) mentioned the importance of providing a female speech therapist for modeling, although male therapists sometimes provide successful therapy in the programs in Australia.

• Ask the client for permission to discuss her personal history, even if it may be sensitive, if it is currently vital to your work. Sometimes, compelling personal events are occurring that impact the work within a session. For example, if a new job involves extensive telephone communication, it may be vital to practice telephone greetings and stock phrases as part of the initial therapy content. You may also want to ask explicitly for permission to comment with tact and sensitivity, on the client’s clothing or physical movements should you note that they are not perceived to be feminine or that they call negative attention to themselves. One of the challenges for any clinician is to be both truthful and kind, providing honest feedback in a way that can be useful to the client.

• Be aware that all of the services provided to your client are costly and usually are not covered under current managed care or insurance companies. Your client is likely financing her visits for therapy. This particularly highlights the importance of efficacy and the provision of practical, immediately applicable practice tasks and strategies to use at home and in the workplace. Some clients may arrive with the intention of only obtaining an evaluation to get some idea of the journey they will be taking and their potential for vocal change. The work may sometimes involve very few sessions or intensive early work with less frequent sessions as they proceed into the habituation stages of therapy.

• It is imperative, early in the first session, to obtain information about your client’s self-perceptions, personal goals, and expectations. It is helpful to wait and listen carefully, because not all transsexual clients share the same goals. Although some may feel an urgent need to “pass” as female in the workplace, for example, others may strongly wish to make small, subtle changes, regardless of how they are perceived.

• Find out what, if anything, the client has attempted regarding voice changes. Does your client perceive herself to have a “tin ear” or does she have some background in music, singing, or professional voice use? How difficult will it be for your client to find a comfortable way and place in which to practice? Is there potentially a partner, significant other, or friend who might serve as a communication partner by mutual agreement? Should that individual attend and participate?

THE INTERVIEW

When arranging for an appointment, find out immediately how your client wants to be addressed. Scheduling by telephone also provides the clinician with the opportunity to establish any requests, such as asking the client to come in female attire. Once the client arrives, establish name and pronoun preference, including any confidentiality issues regarding telephone messages or e-mails. If the client has not revealed her transsexualism at work, it is imperative to honor that privacy and make careful notes to avoid an error.

The clinician will want to obtain all relevant information, as in any initial interview process. An important consideration is knowing where the client is in the gender reassignment process (Andrews, 1999). It is helpful to ask the client how she might describe her understanding of where she is on the gender continuum. This information may have significant implications for treatment. The individual who is not yet certain of his or her gender identity may simply be seeking information about voice and communication processes, with no intention of seeking therapy until a later time. A client may return a year later for therapy, after proceeding with changes in a manageable process. Some clients will seek an informational consultation. Most are in psychotherapy, have begun hormone therapy, and are cross-living to some degree. Sometimes, family and privacy considerations make it difficult to pursue the desired
full-time life in the new gender role, and this can place some limitations on voice practice opportunities. Other clients may be transitioning “on the job” with a few weeks off, planning to resume work in a new role. The urgency of that deadline and the goal of living and working “full time” results in a highly motivated client who may be seeking intensive therapy with a strict timeline imposed on the treatment.

It is valuable to find out about the individuals’ relationship to family members and colleagues around the transition. Have they been told? Are they supportive or not? Does the client have an ally in the workplace? This is important information, enabling the clinician to understand what support or what limitations might be imposed on the client during the therapy process. For example, many clients are still in a marriage, with a partner who resents or is threatened by any vocal changes and other indications that point to the transition. In order to practice vocal exercises, the client must practice in private. Sometimes, clients have no place to practice and are in shared housing arrangements. The client from Saudi Arabia practiced alone in the desert where no listeners would be present.

What are your client’s therapy goals at the outset? Once again, the assumption that the goal is to “pass” as female is not always the case, though usually it is a significant goal. Some clients do not plan on making a transition for some time. Some clients may wish to “try on” a feminine voice restricted to specific situations.

Expectations range widely and play a very important role with this population. One individual may want to sound like the clinician or like the actress Lauren Bacall. Another may anticipate satisfaction with a voice that is perceived as androgynous, or a voice that does not call attention to itself and is generally perceived as female, allowing the client to “pass” most, if not all, of the time. Others are deeply concerned with the telephone because it is often most difficult to “pass” on the telephone without visual markers providing additional cues to the listener. Sometimes, a stereotypical preference for a voice perceived as breathy or helpless is desired, but the majority of transsexual clients seek a voice they perceive to be authentic and genuine, rejecting notions ofphony, “campy,” or overly dramatized utterances. Obtaining this information about attitudes and expectations often directs the initial stages of therapy, in terms of discussions about the markers of feminine voice and communication and the judicious employment of these features in conversational usage.

Prior to beginning therapy, it is important to note what the client has done independently in an attempt to create voice changes. Some clients have tried nothing; others have tried suggestions and videotapes available on the Internet or have worked informally alone or with a partner. Some clients in this practice have had a professional background in music. Because the client’s initial attempts to modify the voice can provide salient information about the client’s vocal skills, it is important to obtain a sample of the modified speaking or singing prior to proceeding with therapy. This can significantly improve the efficacy and shorten the duration of therapy. Some clients, once given some specific tools and exercises, can achieve successful results independently, with monitoring and pertinent targeted interventions provided by the therapist.

Finally, it is essential to obtain a complete health history as an important component of the interview. Sometimes, the transgendered client will present with other health concerns such as hearing loss, neurological disorders, a history of smoking, allergies, or upper respiratory concerns, which have an impact on voice therapy. Although in a more controlled, multidisciplinary setting, an otolaryngology examination may be conducted on all clients, in the private practice setting, most transgendered clients do not arrive having completed a laryngeal examination. If, in this setting, any vocal quality concerns or other medical issues such as upper respiratory problems or hearing loss are noted, medical referrals are made before initiating therapy.

At the end of the intake interview, the speech-language pathologist should have a clear idea of the client’s goals, expectations, motivation, support, health issues, and likely commitment to therapy. These combined factors, following exploration of some trial therapeutic tasks, should allow the clinician to make at least a preliminary estimate about the extent of anticipated treatment needed to achieve acceptable results.

THERAPY CONSIDERATIONS

Cultural and Gender Differences in Communication

Fortunately, in the last several years, a growing body of literature has begun to address questions about vocal parameters and communication considerations with MTF transsexuals, as well as the works cited earlier regarding the differences women and men communicate in our culture. These provide helpful information because the question arises about which speech markers delineate “feminine” speech. These features, in a fluid and changing society, are shifting over time, influenced by cultural constructs such as feminism. Current media standards for speakers de-emphasize some of the differences between male and female communication patterns, noteworthy at a time when women are asserting themselves in professional leadership roles. Lakoff (1975, 1990) made a strong case for how women’s vocal and linguistic presentation can influence and limit others’ perceptions of them.

Stereotypes

The American Heritage Dictionary (1982, p. 1195) defines a stereotype as “a conventional formulaic, and usually over-simplified conception, opinion, or belief.” It refers to assumptions and widely held beliefs, whether supported by objective information or not. An appreciation of these stereotypes about female and male communication patterns is relevant because we may find our own subjective biases unconsciously influencing the client and the direction of therapy.

Freidenberg: Working With Transgendered Clients 49
The desire to be regarded seriously as an individual of substance may create some discomfort for the clinician or client when first attempting vocalizing tasks because the initial trials may revert back to stereotypical assumptions about feminine speech and language characteristics. One way to address this concern is the notion of initial exaggerations to provide a contrast with current behaviors, with the understanding that the degree of exaggeration will be significantly reduced. When presenting a list of what is culturally assumed to characterize feminine communication, it is helpful to suggest to clients that there are many characteristics one might list. In this practice setting, we provide such a list (Appendix A). Of these, if the client uses too many features, she risks being perceived as a helpless 1950s housewife, an “airhead,” or contrived. Some of the characteristics originally presented by Lakoff (1975) designed to “keep women in their place” are an important variable in this discussion, and the clinician should openly discuss some of the conflicts this may create. The suggestion that less is more, and that the speaker may wish to judiciously increase her use of a few carefully selected features, such as rising inflections or tag questions, is often well received. The goal is to change a few characteristics enough to increase the likelihood of being perceived as female, while avoiding exaggeration.

It is vital to look beyond simply altering fundamental frequency because it has been found that without training in other aspects of voice and communication behavior, MTF transsexuals will not be reliably identified as female (Oates & Dacakis, 1997). Concern about addressing psychological and social dimensions of these issues, not simply following a traditional model based on the pathology of the vocal tract, has been expressed by Wiltshire (1995). However, in the literature, vocal behaviors are the area of major focus when trying to reduce the discrepancy between the communication patterns and the gender role in transsexuals (Bralley, Bull, Gore, & Edgerton, 1978; Oates & Dacakis, 1993, 1997). These efforts to alter vocal characteristics are particularly important for MTF transsexuals (Oates & Dacakis, 1997), and they are often the main focus of therapy.

**Fundamental Frequency**

Modification of vocal behavior with MTF transsexuals often begins with a focus on increasing the vocal fundamental frequency. An extensive review of the literature on voice change in transsexuals by Oates and Dacakis (1997) included their summary on fundamental frequency data on biologically female voices. They stated:

The majority of studies have shown that the mean fundamental frequency for adult females is between 196 Hz and 224 Hz, with a range of 145 Hz to 275 Hz. The corresponding mean fundamental frequency for adult males is between 107 Hz and 132 Hz, with a range of 80 Hz to 165 Hz. Average fundamental frequencies, then, are close to 90% of an octave higher for women than men, although the ranges for males and females overlap in the region of the upper limits for men and the lower limits for women. Studies which have investigated listener’s perceptual judgements of average pitch support these acoustic findings; women’s voices are consistently perceived to be higher than those of men. (Oates & Dacakis, 1997, p. 178)

The authors found that when they reviewed gender studies that looked at other measures, such as fundamental frequency range, standard deviation of fundamental frequency, and intonation contours, the results were not as clearly in agreement as those that looked at fundamental frequency.

Oates and Dacakis (1997) noted that when frequency range and standard deviation were measured in Hertz, females were found to use a wider pitch range and greater pitch variability than males. However, when the semitone scale was used for comparison, few significant differences were noted. There have been very few studies that have compared listener’s perceptions of pitch range and variability for male and female speakers. One perceptual study was conducted by Sulter and Peters (1996), where naive judges rated speech samples provided by both male and female judges. Oates and Dacakis (1997) summarized Sulter and Peter’s findings, noting that “the women’s voices were judged as more ‘expressive’ and ‘melodious’ than the men’s voices” (p. 179). Oates and Dacakis (1997) reported that other studies have reached similar conclusions.

Using transsexual participants, Spencer (1988) recorded reading passages with 8 MTF transsexuals and 8 control participants and asked a panel of listeners to judge the passages using dichotomous ratings (male/female) and then to indicate how successful each voice was as a representative of that gender. He found that fundamental frequency was highly correlated with the listener’s judgment of the speaker’s sex and that MTF transsexuals who used a fundamental frequency of 160 Hz or more were likely to be judged as female.

Wolfe, Ratusnik, Smith, and Northrop (1990) looked at the contributions of both fundamental frequency and intonation patterns to perceptions of gender with MTF transsexuals. They used university students to make dichotomous judgments of the gender of 20 transsexual speakers, which also included a rating on an ordinal scale of masculinity–femininity. Those participants who were perceived as females used higher fundamental frequencies, less extensive downward shifts in intonational patterns, a larger number of intonational shifts overall, and fewer level intonations than those speakers who were perceived as male. In this study, those participants with fundamental frequencies greater than 155 Hz were judged to be females, and the average fundamental frequency was highly correlated with the students’ ratings on the masculinity–femininity scale. Although intonation patterns were a factor, fundamental frequency was a more important predictor of gender in this study.

In a more recent study involving listener judgments, Gelfer and Schofield (2000) obtained somewhat different results. They found that some speakers with a speaking fundamental frequency greater than 170 Hz were still perceived as male speakers. They asked students to make gender judgments of sentences read and recorded from the “Rainbow Passage” (Fairbanks, 1960, p. 127), along with sustained vowels produced by biological male and female control participants and MTF transsexual speakers. The speakers were matched for age and size because both factors influence voice production. Listeners were instructed to identify each speaker as male or female, estimate the
speaker’s age, and rate femininity–masculinity on a 7-point rating scale.

Gelfer and Schofield (2000) stated that “speaking fundamental frequency (SFF), upper and lower limits of the SFF, and all vowel formants were consistently higher for the female-perceived group. Female-perceived speakers also had a greater range (semitones) in the downward pitch shifts, and a greater number of upward shifts in pitch” (p. 30). The mean SFF for Gelfer and Schofield’s group of female-perceived speakers was 187 Hz, with speakers’ SFF ranging from 164 Hz to 199 Hz. Interestingly, there was an unexpected overlap between some of the male-rated speakers and the female-rated speakers in the range of 164 Hz–181 Hz. Once again, speakers with a higher SFF were more likely to be perceived as female, but this was not consistently the case.

Gelfer and Schofield compared their results to the data from Spencer (1988) and Wolfe et al. (1990), noting that the earlier studies found an SFF of 156–160 Hz to be sufficient for speakers to be perceived as female. Gelfer and Schofield’s findings did not replicate earlier findings in this regard, because a few of the male-perceived speakers in their study had SFFs much greater than 160 Hz. They also “found no significant differences in intonational analysis between subjects perceived as male and those perceived as female” (p. 31).

A differentiation between intonations and shifts, and differences in the type of speech sampled, may have impacted these findings because spontaneous speech samples were used by Wolfe et al. (1990) and readings of the “Rainbow Passage” (Fairbanks, 1960) were used by Gelfer and Schofield (2000). It was most interesting that of the 6 transsexual speakers with speaking fundamental frequencies greater than 170 Hz, only 2 were rated consistently as female. In summary, fundamental frequency alone seems insufficient to identify a speaker reliably as female. However, the authors noted that higher upper and lower limits of the SFF, intonational variety, and perhaps resonance characteristics, appear to be the most important variables in gender identification.

Resonance

Some research on resonance has been conducted. Oates and Dacakis (1997) summarized from other studies:

Resonance differences between male and female voices have also been consistently demonstrated. Average formant frequencies of women’s voices are approximately 20% higher than those of males, formant bandwidths for most formants are wider for females, and amplitudes of most formants are lower for females than males. (p. 179)

This is usually attributed to the comparatively shorter vocal tracts of women (Hirano, Kurita, & Nakahima, 1983).

Spencer (1988) also noted that the fundamental frequency of 160 Hz alone was insufficient for listeners to perceive the speaker as female. Spencer added that the resonance of the voice and intonation characteristics were also important contributors. Mount and Salmon (1988) reported on a single case study of an MTF transsexual in which the client did achieve a higher fundamental frequency consistent with female voice. However, it was only after some changes were achieved with her formant frequencies that she was identified as female over the telephone. Their case study may have suggested that formant frequencies might be a salient cue in identifying gender, but none of the vowel formant samples in Gelfer and Schofield’s recent study (2000) attained significance.

Intonation

In addition to fundamental frequency and pitch variability, or frequency range, there are also suggestions that men and women use different intonation or intonation patterns. Pellowe and Jones (1978) found that women used greater intonational variability and that women used more patterns of rising tones, whereas men used a higher proportion of falling tones. Brend (1975) found that men use fewer rising tones and females avoid using level tones. However, Oates and Dacakis (1997) cited additional studies that found that gender differences were not significant when other intonational parameters such as number of upward and downward inflection shifts and average rate of change in fundamental frequency were calculated.

Breathiness

There are also studies that demonstrate that some women speak with an incomplete closure of the vocal folds, with a posterior glottal chink noted during phonation. This is viewed as normal for women, but far less likely to occur in men (Biever & Bless, 1989; Sodersten, Hertegard, & Hammarberg, 1995). Female voices are perceived as breathy more often than male voices (Klatt & Klatt, 1990; Sulter & Peters, 1996).

Most Important Parameters

Given the somewhat conflicting research results, what are the salient voice parameters associated with gender in transsexuals at this stage in the research? What measures might predict successful gender changes in transsexuals? Gelfer and Schofield (2000) noted that “the SFF, upper limit of the SFF, lower limit of SFF, intonational variability and possibly resonance” (p. 32) were likely the most important in gender identification although resonance characteristics are less well-researched to date. If “passing” as female is the measure of success, then success rates vary, and clearly some individuals do very well. Other issues, such as vocabulary differences and the impact of visual appearance, have not been extensively considered.

VOICE THERAPY

Treatment Programs

Gelfer (1999) provided a very well-structured model for treatment within the context of a university training clinic. Many of the steps in that model, arranged as hierarchical tasks, would be appropriate for work in any setting.
including the steps involved in selecting and establishing a
target pitch and extending usage into syllables, words,
chanting, phrases, and single and multiple sentences.

In this private practice setting, some of the following
approaches are used. A review of feminine vocal, linguistic,
and nonverbal features (stereotypical or not) is provided in
a handout to the client (Appendix A), along with a bibliog-
rphy of references (Appendix B) for those who wish to
investigate and read further.

Oates and Dacakis (1997) recommended targeting a
fundamental frequency of at least 155 Hz, attempting to
increase formant frequencies (alter resonance), focusing on
intonation, and decreasing intensity (loudness) slightly as
reasonable goals. Gelfer and Schofield (2000) added the
inclusion of higher upper and lower limits to the SFF,
intonation variety, and the possible benefits of some
resonance changes. A consideration of Gelfer and Schofield’s
(2000) most recent study might suggest that a higher
speaking fundamental frequency, greater than 170 Hz, might
be prudent. Even with that increase, some clients may not be
perceived as female and other factors may require attention.
However, exploring the client’s vocal range and carefully
selecting a target pitch seem reasonable initial steps.

Locating a Target Pitch

Because every speaker is different in terms of pretherapy
speaking fundamental frequency, we begin by investigating
within an arbitrary range between 155 Hz and 177 Hz.
Careful selection of an initial target pitch occurs during the
first visit. The client is asked to vocalize either a musical
scale or a glissando using an easy, light production
modeled by the therapist. Working with a scale or modest
glides (because some clients cannot sing discrete notes), the
clinician observes the upper part of the pitch range that is
still comfortable and clear, with the client moving up the
scale until the voice quality is no longer acceptable. This is
repeated several times because many clients improve with
practice, decreasing tension over repeated vocal trials.
There is considerable variation in the target pitch level,
which is the highest pitch characterized by relatively good
voice quality, with some “room” to move upward 1–2
semitones, without the voice “breaking” into falsetto or
sounding unduly strained. For some clients, this target pitch
level increases slightly after some practice and ease with
phonation has occurred. Also for some clients, working
from the “top down” may be more effective in locating a
comfortable pitch using less strain in the initial process.

Kinesthetic Feedback: Anterior Resonance

In working with traditional vocal abuse clients, improved
tone focus or emphasis on more anterior resonance is often
used. Voice clients often report a sense of greater ease (i.e.,
reduced hyperfunction), with a secondary effect of a slight
increase in SFF noted. The degree of SFF change for some
transsexual clients is considerable, and early attempts can
be characterized by great effort, so their initial attempts
may seem weak or strained. Use of the concept of anterior
or facial resonance when producing voice is helpful in
reducing a degree of strain in some clients’ phonatory
efforts. It is crucial in the early stages of therapy to
observe carefully for signs of hyperfunctional effort. An
emphasis is often placed on kinesthetic awareness, having
the client feel the resonance characteristics in the face,
using phonemically loaded material with an emphasis on
the nasal consonants, /m/, /n/, and /ng/.
The client may start with words that begin with /m/ or
/n/, such as mine, men, maybe, no, and no one. This notion
of forward placement or anterior resonance and avoidance
of chest resonance and the sensation of feeling facial or
head vibrations is often helpful. This can reduce hyperfunc-
tional attempts at raising the SFF and can assist clients
who have difficulty hearing relative pitch changes they are
producing. Challoner (1986) discussed this, along with other
strategies, in a chapter on voice therapy for transsexuals.
Challoner suggested that the client read aloud or repeat
statements (feeling a “hum” at the top of the chest with a
hand while reading aloud), then practice humming and
moving the voice forward into the face. An approach in this
setting is to have the client repeat words, and later short
phrases, beginning with a prolonged nasal consonant, feeling
the vibrations with a hand on the face before proceeding into
the statements. (Monday morning I have a meeting.
Making much money.) Sometimes, a helpful technique is
to use the conversational maintenance comment um hm
with a rising inflection as a starting utterance. This provides
a way to move into more anterior resonance while also
gliding upward in pitch prior to the onset of the first word.
Sometimes, clients benefit from the visual suggestion of
imagining they are lifting the voice over a “shelf” just
beneath their eyes. Though not physiologically accurate, the
visualization is sometimes helpful. The use of light, crisp,
precise articulation and an “intention to communicate” by
not allowing articulation or phonation to “fall back” or
retreat into deeper pharyngeal or chest resonance production
is important for some clients who are particularly shy about
communication or have particularly deep voices.

Breath Support and Movement

It is important to pay attention to breathing and movement.
It is easy in the early stages of therapy to stay frozen in a
seated position and to develop a “preparatory set” of muscle
tension associated with the act of speaking. The clinician
should be certain the client is sometimes standing and
moving while speaking to avoid the buildup of preparatory
tension and encourage more natural use of the voice. In
addition, prompting the client to provide adequate breath
support by using easy patterns of inhalation and airflow is
crucial to enhancing voice quality and reducing strain. Much
is available about breath support in the literature about
acting and theater voice use (Lessac, 1976; Linklater, 1976).

Visual and Auditory Feedback

It has been quite helpful to clients to have visual as well
as auditory feedback as they attempt their vocal tasks. The
Pitch and Intonation Patterns

Work is begun on two variables simultaneously—achieving a higher SFF with some initial simultaneous practice using a rising inflection pattern. We quickly move into familiar words and commonly used greeting statements and questions that are representative of daily life. The initial use of rote material (e.g., words, counting, days of the week) is helpful for clients who are freed from having to generate their own spontaneous language at this stage. This avoids the pitfall of simultaneously attempting too many tasks. Conversational openers such as “Good morning, how are you?” and “What time is it please?” are then introduced, with repeated modeling and practice opportunities provided. This provides for the use of believable, realistic linguistic material from the beginning of therapy onward. There is some initial use of rising inflection patterns because this is described as a feminine characteristic and it is foreign to the experience of some male speakers. However, the goal is always to move from stereotypical patterns to natural-sounding speech and voice.

In addition to selecting a target pitch, a consideration mentioned specifically by Gelfer and Schofield (2000) is that it is important to have the potential for variability, especially in an upward direction. The client must have some “room at the top” as well as “avoiding the basement,” to use a house metaphor. When working on vocal resonance and placement, we urge clients to stay “forward” and “avoid the basement” as a visual prompt to avoid the kinesthetic sensation of chest resonance, a concept that is familiar to singers and actors. Experience in this setting suggests that if the client can obtain rising intonation patterns of several semitones above the selected fundamental frequency without undue strain or quality changes, the client is likely to have sufficient pitch flexibility without extreme restrictions or strain likely to occur.

Therapy proceeds quickly along the hierarchy of tasks, often bypassing chanting or oral reading in favor of using everyday conversational comments. Again, extensive modeling is provided, and the client provides repeated samples of voice production using familiar, everyday utterances. At least a few samples should be attempted during the initial consultation, accompanied by some structured, brief tasks to practice at home. A common concern is how to answer the telephone or how to record a satisfactory answering machine message. These concerns provide the clinician with pertinent immediate therapy material, particularly because the client often has already independently rehearsed telephone greetings.

Downward Inflections

Some time in therapy is also spent avoiding too great a drop in speaking fundamental frequency at the ends of statements. A subjective experience has been noted in this practice that an impression of femininity or androgyne can be “undone” and moved into the male-perceived direction if one word or syllable of an utterance drops into a male frequency range or into deeper chest resonance. Gelfer and Schofield (2000) noted some samples of experimental voices where the initial impression was that of a female speaker “except for a single word or perhaps a phrase that had a ‘male’ sound to it. These experimental voices were consistently identified by listeners as belonging to a male speaker” (p. 32). The authors suggested that the specific segment of speech sampled might impact the listener’s identification of the gender of that speaker. Care must be taken in therapy to listen, with the client, to segments in which a portion of the sampled utterance can be perceived as female and other portions might be perceived as male, to note which specific factors might be contributing to that perception. Again, staying “forward” with resonance and “intention to communicate” through the final word of an utterance may help the client avoid dropping pitch and resonance too much at the end of a statement.

One particular concern regards laughing, coughing, and throat clearing. These are difficult behaviors to modify, though the client can learn to clear her throat or cough without releasing full voice production. Laughter can be modified to avoid deeper vocalizations, but it is not easy to modify these behaviors, which we seldom control in a conscious way.

Language Features

A review of feminine language characteristics, vocabulary, and grammar is discussed but generally not emphasized in therapy. This includes such things as the use of intensives (so, such), qualifiers (sort of, rather), tag questions (isn’t it?), and overly polite request forms, as well as physical gestures, head tilt, hand movements, eye contact, social conventions, interruptions, and conversational content (Appendix A). These are demonstrated and discussed, though linguistic markers are not rehearsed in therapy. Lakoff (1975, 1990) provided a list of behaviors that are worth reviewing, along with conversational topic and style considerations by Dacakis and Oates (1998). Some upward “liits” and tag questions are included in our program, then reduced in frequency of use. Initially, these upward liits are used to obtain an estimate of the speaker’s potential to use some upward intonational patterns without undue phonatory effort or strained results, as well as to familiarize the client with the existence of this pattern.
OTHER CONSIDERATIONS

Visual Presentation

Gelfer and Schofield (2000) made the important point that in all of the studies cited, listener judgments were made from auditory information alone. Hadjian, Allred, and Mahaffey (1981) presented an unpublished paper that described presenting audio-only and audiovisual tapes to a class of students who made multiple judgments of the samples, including one rating on a masculine–feminine dimension. The participants were 9 biological females and 1 MTF transsexual. In their preliminary report, the transsexual speaker was not judged as sounding any more masculine than the biological females when judged on the audiovisual tapes. However, the transsexual participant was ranked as sounding more masculine on the audio-only tapes. Given that preliminary report and the subjective reports of many clients, it is helpful to assure clients that an appropriately feminine visual presentation is an important part of listener and viewer perception, and that the telephone may be the last, most challenging hurdle for them. It is also helpful to provide videotapes as well as audio recordings during therapy so clients can observe their total presentation.

Laryngeal Surgery

Laryngeal framework surgery has been developed to increase the fundamental frequency of the voice. Several methods of stretching and increasing the tension levels of the vocal folds are described in the literature, with Isshiki’s (Isshiki, 1989; Isshiki, Taira, & Tanabe, 1983) cricothyroid approximation technique often used. Approximating the cricoid and thyroid cartilages by suturing them in position stretches the vocal folds, increasing tension so that they vibrate at a faster rate with a corresponding increase occurring in the fundamental frequency. This is currently a popular procedure because it is relatively simple and less invasive than other options.

Dacakis and Oates (1998) provided a brief summary of several procedures and the difficulties noted in obtaining conclusive evidence about the efficacy of surgical intervention for increases in pitch. Dacakis, Oates, Phyland, and Vallance (2000) reported quite recently on the results of the cricothyroid approximation procedure on 11 MTF transsexuals in Australia. In their study, the participants had an inability to raise their pitch to pre-surgery levels, reduced pitch range, reduced pitch control, and reduced increases in volume, but a higher lower pitch level, which means that they were less fearful that the pitch would drop unexpectedly during conversations. The group’s mean increase of 9 Hz was not statistically significant, with an increase in mean fundamental frequency in 8 of 11 participants ranging from 3 Hz to 39 Hz. The authors reported that participants experienced vocal fatigue and some feelings of “tightness” when swallowing. Anecdotal reports of subjective experiences and satisfaction with phonosurgery on the Internet vary widely, and additional studies of the efficacy of laryngeal phonosurgery continue to be important. It should be noted that such characteristics as resonance and intonation patterns are not addressed by surgery. It is unlikely that surgery alone would be sufficient for transsexual speakers to be perceived as female.

Self-Monitoring

The client proceeds through a hierarchy of tasks from vowels, glissandos, scales, words, short utterances, multiple sentences, and, ultimately, paragraphs in role-playing situations. Later in therapy, as the client proceeds into role playing, it may be important to point out any observed tendency for the voice to begin to “sag” or migrate down into the original male-speaking frequency range over the length of the speaking task. The periodic insertion of a “starter” phrase such as a lilting um hm as a deliberate prompt during the early stages of therapy may help the speaker to avoid dropping into a lower frequency range on longer speaking tasks.

The classic stuttering therapy technique of cancellation (Van Riper, 1973) may be applied with transsexual clients. The client is urged to stop, correct, and repeat any word she detects and perceives as unacceptable. This can provide the clinician with valuable information about the error detection skills of the client at various stages of therapy. It also provides the client with a specific way to improve upon her initial utterance and repair a sagging voice pattern. The most demanding task for many clients involves learning to maintain their newly acquired speaking fundamental frequency, frequency range, and intonation patterns throughout longer utterances that involve spontaneously generated language. This dual load of simultaneously concentrating on voice production and linguistic formulation is particularly challenging for most clients.

Modeling and Independent Practice

The therapist provides extensive modeling throughout the therapy process. If the clients drive a lot, they are urged to listen to selected female voices on the car radio and model those sentence patterns. This provides a variety of modeling opportunities. If therapy time limitations are imposed, it is important to obtain some good, secure examples of “best voice” production by the client, with several early visits scheduled weekly, with decreasing frequency of visits agreed on later in the process if necessary. Although not ideal and sometimes detrimental to the eventual habituation of the targeted changes, the client is at least less likely to acquire and incorporate counterproductive phonatory habits over time. Sometimes, follow-up by telephone can be provided if great distances are involved for the client.

Habituation

Once the client arrives “in voice” and stays “in voice” during an entire visit (including time in the waiting room), the therapist then realizes that habituation and generalization are beginning to occur. It is easy to lapse into deeper
voice when making passing comments or simply in casual conversation when monitoring efforts may be relaxed. It can also be more difficult to maintain changes under conditions of increased stress. Therefore, it is important to watch for the signals that indicate that the speaker is consistently acquiring and using her new voice. Clients are told that this can be a long process, sometimes requiring up to a year to maintain improved voice patterns consistently without constant monitoring and mental effort. In an era of “quick fix” expectations, it is important to emphasize this reality.

**Long-Term Maintenance**

It is difficult to assess or estimate the long-term maintenance of the fundamental frequency changes of clients because of their mobility and varying time commitments to therapy. However, in a recent study, Dacakis (2000) obtained some interesting follow-up data on a group of 10 MTF transsexuals. All participants were able to increase their mean speaking fundamental frequency, with increases ranging from 10 Hz to 78 Hz. Some of the participants with low fundamental frequencies were able to make fairly substantial increases, and 7 of the 10 increased their fundamental frequency to 165 Hz or greater. However, only 2 of the participants maintained all or almost all of the gains they achieved in therapy over time, and 4 participants returned to within 4 Hz of their initial fundamental frequency. It was possible for 1 of the participants to increase her speaking fundamental frequency by 61 Hz and to maintain the increase over time. Another participant had an increase of 78 Hz but maintained an increase of 38 Hz over time. There was a correlation between the number of speech therapy sessions and the maintenance of fundamental frequency increases over time. The timeframe in the study ranged from 1 to 8.9 years post-discharge, with an average of 4.3 years post-discharge from therapy. The author acknowledged, however, that it is important to be flexible when providing therapy and practice opportunities because many sessions over a longer period are not always possible. Frequent review sessions, and specifically structured home programs, were suggested to help support maintenance.

**CLIENT SATISFACTION**

Perhaps the most interesting result in Dacakis’ (2000) study was the finding that clients’ reports of satisfaction with their voices were at odds with the acoustic evaluations. Clients revealed high satisfaction, even those clients whose fundamental frequency results returned to pretherapy levels. The author speculated that this seeming incongruity between client satisfaction and acoustic data may reflect the supportive nature of the therapy, and may have to do with the client’s ability to “pass,” despite data suggesting no meaningful long-term fundamental frequency gains. However, her study did suggest that increases are achievable in therapy for all clients, even those with a low fundamental frequency at the beginning of therapy, and that some, though not all, clients are able to maintain these gains over time.

**CONCLUSION**

It is vital for the speech-language pathologist working with MTF transsexual clients to have an understanding of their life experiences, concerns, and goals. It is not easy to change patterns of voice and communication learned from birth, particularly in the midst of upheaval and sweeping changes. However, with an understanding of the challenges involved in the client’s life transition, the clinician is better able to provide effective and supportive therapy. With an appropriate, thoughtfully structured intervention program, much can be achieved. Although more research is clearly needed about salient markers for gender and about treatment outcome information, there is now a body of helpful literature available about how to proceed. The speech-language pathologist with expertise in voice and an interest in working with transsexual individuals has much to offer that is appreciated by these most interesting and motivated clients.

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APPENDIX A. MALE/FEMALE COMMUNICATION DIFFERENCES

Much has been written about communication style and content differences between males and females over the last several decades. Some stereotypical generalizations have been called into question and overuse of these would create a caricature. Therefore, carefully determine the selective choices that are comfortable for you to explore. There are significant differences between speakers and numerous exceptions to these generalizations.

**Pitch & Voice**
Women usually speak in a higher pitch range, with a higher habitual speaking pitch.

Women tend to use more varied intonational contours, with higher highs and lower lows. Their speech often seems to contain more “melody.”

Women frequently use a rising “question” inflection, sometimes carried into declarative statements. Lakoff notes that this conveys uncertainty or need for approval.

Women’s voices are often breathier than a man’s, characterized by less intensity, or loudness.

**Vocabulary & Grammar**
Women more often use “tag questions” at the ends of sentences (“Isn’t it?” “Okay?”).

Women tend to be more indirect and polite than men, using compound and polite forms of requests (“Would you help me with this please?”).

Women tend to use intensive forms, which Lakoff suggests convey impreciseness (“so,” “such,” e.g., “That is such a beautiful necklace.”).

Women tend to use qualifying comments (“a bit,” “rather,” “sort of,” e.g., “I rather liked the movie.”). These are regarded as hedges in Lakoff’s writings.

Women tend to use more adjectives or verbs expressing emotional rather than intellectual evaluation than men (“lovely,” “divine”).

Women tend to use conjunctions (“and,” “but,” “however”) more than interjections (“Hey” “Right”).

Women may use less slang, joking, and swearing and may more often use psychological state verbs (“feel,” “wish,” “hope,” “wonder”).

**Nonverbal**
Women may approach more closely for the initial speaking distance in conversations.

Women tend more often to look directly at the conversational partner.

Women may seem more sensitive to nonverbal cues and may more accurately ascertain underlying messages and nuances of mood.

Women tend to use hands, arms, and the upper body more extensively for gestures than men.

Certain gesture patterns are thought to be feminine (e.g., circular hand movements, gestures with the palms up).

Some body postures are historically feminine (e.g., knees drawn together with the ankles crossed).

Women often use “um-hmm” or a head nod to confirm and maintain the flow of conversation.

**Social**
Women tend to express emotion and engage in self-disclosure to a greater degree than men.

Studies of cross-sex conversations indicate that women are more likely to be interrupted and less successful at introducing new topics.

More of women’s communication is expressed nonverbally, by gestures and intonation, than men’s.

Women’s communicative style tends to be collaborative rather than competitive.

**References**


APPENDIX B. VOICE BIBLIOGRAPHY: TRANSSEXUALISM

General


Male/Female Communication Differences


Speech Pathology/Voice Therapy/Phonosurgery


