We have seen six patients, over the past two years, who had developed intense fear of standing or walking as a result of accidental falls. None of these patients showed any evidence of neuromuscular impairment that might account for their inability to walk. However, the results of psychological evaluations of all these patients revealed high degrees of focal anxiety that was phobic in nature and related to standing or walking. Personality assessments of these patients showed little or no evidence of psychopathology of a generalized nature or of personality trait disturbance. The phobic reaction was the primary psychological disturbance underlying their fear to stand or walk. Each patient demonstrated evidence of both reduction of anxiety and functional improvement in walking following behavioral desensitization and physical therapy. We believe this disorder is a distinct psychological problem unrelated to agoraphobia, and we propose using the term "ptophobia" when describing this clinical entity.

Key Words: Phobias, Gait, Behavior therapy, Physical therapy.

Six of the patients referred to our Department of Physical Medicine and Rehabilitation for assessment of gait and training in ambulation over the last two years revealed an unusual psychophysiologic disorder—fear of falling from a standing or walking position. Neurological examinations of these patients revealed no abnormalities that might explain their inability to walk safely on level ground. Little or no evidence of psychopathology of a generalized nature was revealed in the results of detailed psychological evaluation of all cases, including intellectual assessment and the Minnesota Multiphasic Personality Inventory, or in the results of a lifestyle activity inventory and phobia inventory on four cases. There was evidence, however, of severe phobia at the time of admission to the hospital with substantial improvement at the time of discharge after therapy.

A review of the recent literature revealed only one study describing four patients with intense fear of falling. The investigators believed that this disorder might be an unusual variant of agoraphobia, that is, the fear of open or public places. Our observations, on the contrary, suggest that Ptophobia—the phobic reaction to standing or walking—is a distinct clinical entity unrelated to agoraphobia in many patients.

The following are three case study examples of patients with fear of falling from a standing or walking position in which behavioral desensitization and physical therapy were used to reduce markedly or eliminate this fear.

CASE 1.

Mrs. C. E.—a 95-year-old alert, well-oriented woman—was hospitalized with shortness of breath. She had a two-year history of dizziness with frequent blackout spells. The first blackout resulted in a fall that caused a scalp laceration that required suturing. Since that fall, the patient had an intense fear of falling and had been unable to walk without maximal assistance. Physical examination revealed bradycardia, with a pulse rate of 30 bpm but no neurological abnormalities. An ECG revealed third degree AV
block. Because of the bradycardia and history of frequent blackouts, a cardiology consultation was obtained. Based upon this, installation of a permanent pacemaker was recommended. Postoperatively, the patient received digoxin, 0.25 mg daily, and did well. Her pulse rate became normal. At that time, the patient stated she no longer felt dizzy, but still refused to stand or walk because of the fear of falling.

A psychological evaluation revealed that the patient’s phobia had developed as a conditioned emotional response resulting from repetitive blackouts and falling incidents.

To help her gain confidence in walking, the patient began progressive ambulation training using a walker and assistance from the physical therapist, which decreased gradually as her phobic anxiety diminished. With this behavioral desensitization approach, the patient gained increased confidence in her walking and began using a walker with minimal supervision. She was discharged home ambulating with a walker.

CASE 2.

Mrs. H. R.—a 79-year-old widow—was seen in consultation for possible bracing of her left ankle. She was originally hospitalized with bilateral bronchopneumonia with a history of generalized arthritis. This patient also gave a history of frequent falls at home that she blamed on her weak left ankle. She had not walked for two months before admission because of the fear of falling. An examination revealed an alert and oriented patient with an ecchymosis over the front of the right thigh. There was no motor weakness or impairment of coordination in the lower extremities. Both knee and ankle joints were grossly normal. Nonetheless, the patient was extremely fearful of sitting or standing without support. The patient’s attempts to stand required the assistance of three people. Walking was not feasible because of the patient’s intense fear of falling.

The patient began a graduated program of ambulation with support. Initially the physical therapist reported her to be apprehensive and fearful of falling. With continued reassurance and moderate assistance from the therapist, the patient began to ambulate 20 to 30 ft using a walker. However, she demanded more assistance than the therapist deemed necessary. After one week of training, the patient was reported to be less apprehensive and much improved in her ambulation. She was able to sit up independently from a supine position with minimal verbal guidance. She could also walk with a walker and supervision up to 160 ft during one treatment session. On negotiating stairs with a railing, she required minimal assistance from one person. The patient was sent home walking independently with a walker.

CASE 3.

Dr. H. J.—a 77-year-old retired physician—was evaluated because of a problem with his below knee prosthesis. This patient had a right below the knee amputation 40 years ago resulting from a hunting accident. About 28 years later the patient experienced a linear fracture of the right hip from a fall. This was treated with a surgical pinning that had excellent results. Two years before the current evaluation, the patient had fallen again, without injury, but had since become extremely anxious about independent ambulation. He would steadfastly refuse to walk unless he had a cane in one hand and could hold onto another person with his free hand. Physical assessment indicated adequate quadriceps femoris muscle strength, coordination, balance, and knee range of motion for completely independent ambulation. The patient was started on a graduated program of independent walking combined with progressive behavioral desensitization of anxiety. The patient was also taught to practice anxiety management in his home environment through listening to cassette tape recordings of the psychologist’s voice while practicing progressively more independent ambulation. The patient began walking with a cane and the physical therapist’s assistance, progressed to using the wall for psychological support, and then to using only his cane. At the time of discharge, he walked completely independently from the physical therapy gymnasium through the main lobby of the hospital to the parking lot. One year after discharge the patient continued to walk independently without any problems.

DISCUSSION

Every person has experienced the emotion of fear. Fear—a normal response to active or imagined threats in higher animals—is comprised of an outer behavioral experience, an inner feeling, and accompanying physiological changes. Among these changes are pallor, sweating, pilomotor erection, pupillary dilatation, tachycardia, hypertension, increased blood flow through the muscles, rapid breathing, fluctuations in the skin conductance, and contractions of the bladder and rectum leading to desires to urinate and defecate. Biochemical changes include secretion of adrenaline by the adrenal glands, secretion of noradrenaline at the peripheral nerve endings, and an increase in the concentration of plasma-free fatty acids.

Phobias are a special kind of fear. The term phobia is derived from the Greek word phobos, which means fear or terror. According to Marks, a phobia can be defined as a special form of fear that 1) is out of proportion to demands of the situation, 2) cannot be explained or reasoned away, 3) is beyond voluntary
control, and 4) leads to avoidance of the feared situation.2

In the three cases reported above, a history of falling preceded the patient developing the phobic symptoms. As is the case with learned phobic responses, the initial fall or subsequent falls appear to have produced strong unconditioned autonomic reactions, mainly of the sympathetic nervous system. Through some classical conditioning processes of association, all three subjects learned to associate walking or standing with falling. The autonomic reactions initially exhibited by falling were involuntarily associated with standing or walking. The more the patient avoided these activities, the more entrenched was the phobia. None of these patients had neuromuscular causes for their inability to walk. Psychological assessment indicated that the intense fear of falling was not associated with, or caused by, other phobic conditions, personality disorders, or intellectual deficits. A simple behavioral desensitization approach of gradually experiencing exposure to the feared situation (standing or walking), without adverse consequences, was devised and successfully used with these patients during physical therapy. In one case, progress was accelerated when the patient practiced walking at home while listening to a cassette recording of the psychologist’s voice giving instruction in anxiety management. Five patients recovered fully within 10 sessions over a two-week period. One patient showed only limited improvement following 10 months of biweekly therapy. Nine months after discharge from the hospital the five recovered patients were still walking independently.

At this time, no satisfactory method of classification of phobias is available because a phobia of virtually any object or situation may develop. A review of the literature reveals numerous Greek and Latin prefixes attached to the word phobia to describe each situation associated with excessive fear.3 4 For example, the term agoraphobia, one of the most common phobias, denotes fear of open spaces or crowds. The agoraphobic patient feels that something dreadful might happen when away from home. Also well-known is the fear of falling from heights—acrophobia—but fear of falling from a standing or walking position is not commonly recognized.

The literature reveals no suitable term for the phobic symptoms exhibited by the three patients described above. We suggest the term Ptophobia for this disorder because the Greek prefix pto means fall (ptosis). Marks and Bebbington suggest that the phobic reaction to standing or walking may be a variant of agoraphobia. We believe, however, this fear of falling, or ptophobia, is a clinical entity distinct from agoraphobia (Appendix).

CLINICAL MANAGEMENT

A number of considerations regarding the clinical treatment of ptophobia should be discussed briefly. First, standing or walking behavior should be shaped progressively so the patient experiences gradually increasing success in standing or walking without falling. It is important that the treatment content and frequency be designed in such a way as to prevent failure or high anxiety on the part of the patient. In this regard, consultation from a behavioral psychologist can be an important step when designing a therapy program. To minimize the patient’s fear and gain his confidence, the physical therapist should progressively increase distances for walking the patient. For example, walking from the bed or wheelchair to the bedside commode, progressing to walking to the bathroom with assistance, and eventually walking to the bathroom independently. Additionally, the patient’s dependence on ambulatory aids, such as parallel bars, walker, crutches, or canes, should be reduced gradually and progressively to achieve maximal independence. For this to be successful, the patient should master the current activity level before moving on in the therapy continuum.5 Initially, ambulation should be attempted at least three or four times a day. This may be accomplished with the physical therapist, an aide, or a family member under the supervision of the therapist. It is preferable to begin the program in surroundings familiar to the patient such as the patient’s room in the hospital or home.

Related to this progressive ambulation model is the notion of “contact desensitization” involving body contact with the therapist who models the desired behavior and who also guides the patient’s participation. Among such types of contact are the therapist putting her hand around the patient’s waist or holding the patient’s hand. It has been shown, the greater the interaction between therapist and the patient the greater the effectiveness of treatment.6 Finally, frequent positive social reinforcement by the therapist is vitally important as the patient demonstrates mastery of walking or standing behavior. The presence of the therapist and the reassurance given, both verbally and physically, should ideally calm and build confidence in the patient.

The rationale for the treatment program should be thoroughly explained to the family, friends, and health care personnel working with the patient to ensure their cooperation and assistance. This is important especially in that ptophobic behavior has often been unintentionally reinforced by the family and by the health care personnel. The team approach is important. In many cases, a psychologist, physician, or therapist, having a background in behavior modification principles and processes, should ideally de-
sign and supervise the entire treatment program beginning with base-line measurement and concluding with posttreatment follow-up. The follow-up, usually lasting 6 to 12 months, is especially important with hospital patients to ensure carry-over of the learned behavior to the patients' home and community environment.

SUMMARY

Fear—a normal response to an active or imagined threat—becomes a phobia when the fear of a certain situation is intense. Three patients who had an intense fear of falling associated with standing or walking were described. The authors have observed that among geriatric patients and disabled people this condition is much more common than is generally recognized and suggest the term ptophobia for this disorder. A program involving a behavioral desensitization approach combined with physical therapy was presented. It appears that the earlier this psychophysologic condition is diagnosed and desensitization treatment begun, the more favorable the prognosis.

APPENDIX

| DEFINITION | AGORAPHOBIA | FEAR OF OPEN SPACES OR CROWDS |
| INCIDENCE | VERY COMMON; MORE COMMON IN WOMEN | FREQUENCY AND RELATION TO SEX UNKNOWN |
| AGE OF ONSET | USUALLY YOUNG ADULT LIFE, 18 TO 35 YEARS | MAY DEVELOP AT ANY AGE; MORE COMMON IN THE ELDERLY |
| ETIOLOGY | A. OFTEN UNKNOWN | A. PRECIPITATING EVENTS USUALLY IDENTIFIABLE, EG, HISTORY OF SPECIFIC FALLS |
| | B. NATURE OF PHOBIA—COMPLEX | B. NATURE OF PHOBIA—SIMPLE |
| | C. INHERENT PSYCHOLoGIC FACTORS ARE PRESENT | C. INHERENT PSYCHOLoGIC FACTORS OFTEN ABSENT |
| | D. ACQUIRED MAINLY THROUGH LEARNING | D. ACQUIRED MAINLY THROUGH CONDITIONING |
| SYMPTOMS | A. MULTIPLE SYMPTOMS OF A DIFFUSE NATURE | A. SYMPTOMS ARE CIRCUMSCRIBED AND FOCAL |
| | B. ASSOCIATED WITH OTHER PSYCHOLOGIC DISORDERS, EG, ANXIETY, NEUROSIS, DEPRESSION, PERSONALITY TRAIT DISTURBANCES | B. NO DEFINITE ASSOCIATION WITH PSYCHOLOGIC FACTORS |
| | C. AN ORGANIC DISORDER, EG, SUBARACHNOID HEMORRHAGE, BRAIN TUMOR, MAJOR OPERATIONS MAY TRIGGER THE ONSET | C. SAME FACTORS THAT TRIGGER AGORAPHOBIA MAY TRIGGER THE ONSET OF PTOPHOBIA |
| TREATMENT | A. USUALLY LONG-TERM | A. USUALLY SHORT-TERM |
| | B. DESENSITIZATION ALONE USUALLY NOT VERY EFFECTIVE | B. DESENSITIZATION USUALLY EFFECTIVE |
| PROGNOSIS | GUARDED; REMISSESS AND RELAPSES COMMON | GOOD; REMISSESS AND RELAPSES UNKNOWN |

REFERENCES