

Vocational Handicaps and Rehabilitation for Lower Extremity Amputation **Written By: Hugh J. Panton, C.P.O.**

Vocational Implications

Overall the potential for vocational rehabilitation in the lower extremity amputee is good, given that serious physical and/or psychological complications do not present additional barriers that cannot be overcome.

Hindquarter Amputation/Hip Disarticulation

Vocational Handicaps and Rehabilitation

The resultant handicaps and physical limitations are significant and may include a restriction from work about uneven terrain, unprotected heights, or work that involves climbing, balancing, kneeling, stooping, crouching, prolonged standing, prolonged walking, or pushing or pulling for pedal or equipment operation. Significant psychological complications similar to those outlined under forequarter arm amputations, shoulder disarticulation and above-elbow amputations may develop and result in difficulty relating to others. Complications such as chronic pain can further limit vocational function.

Both conditions are considered permanently disabling, although vocational rehabilitation intervention is appropriate. Twenty to 52 weeks of vocational rehabilitation is considered a minimum for those patients able to return to similar work or requiring a change to alternate, but related work. Eighteen to 24 months will typically be involved for individuals requiring a complete change of career, including vocational retraining. A more prolonged rehabilitation time is due, at least in large part, to the substantial individual counseling and guidance needs, which must be fulfilled.

Above-Knee Amputation/Knee Disarticulation

Vocational Handicaps and Rehabilitation

Above-knee amputees generally develop vocational handicaps consistent with those experienced by hip disarticulation and hemipelvectomy patients, although improved gait results in less severe limitations. Rehabilitation potential is excellent, provided that a full health care delivery team is organized. The duration of vocational rehabilitation is 18 to 52 weeks depending on the impact of amputation on the client's pre-accident vocational alternatives. For those individuals requiring vocational training, 12 to 24 months is typically involved. Only in the case of severe complications and/or psychological problems should vocational rehabilitation time be required.

Below-Knee Amputations

Vocational Handicaps and Rehabilitation

A unilateral below-knee amputee should be able to achieve excellent ambulation on even ground. However, there will be difficulty in ambulation about uneven terrain or in sand and running is impaired.

The below-knee amputee will thus have vocational handicaps that limit work about uneven terrain or unprotected heights that involve climbing, balancing, kneeling, stooping, and crouching. There may be limitations on prolonged standing, prolonged walking and use of the lower extremity in pedal or equipment operation. Generally, function is better than in above-knee amputations and knee disarticulations. A number of specific work tasks or jobs within worker trait groups may be affected, but it is rare to see an entire work area eliminated by a below-knee amputation.

Of all lower extremity amputations, the below-knee amputation that leaves an intact hip and knee joint has the greatest potential for return to gainful employment without substantial reductions in the range of job alternatives or earning capacity. Of course, this depends on a broad range of factors, and as always, each case must be judged individually. Although this group may have the greatest potential, this does not eliminate the possibility that significant problems can be encountered by the individual.

Vocational rehabilitation for those individuals returning to same or similar work generally runs ten to twelve weeks and primarily involves counseling and guidance services. For those returning to related work, but not the same job, 12 to 24 weeks of rehabilitation is usually involved. Those requiring a full career change, including vocational retraining may require 12 to 18 months of rehabilitation intervention.

Ankle Disarticulation

Vocational Handicaps and Rehabilitation

If the Syme's procedure is properly performed, then few significant vocational handicaps are usually encountered. Walking and standing for prolonged periods may be restricted, but much less so than in the short below-knee or above-knee amputation. Restrictions on climbing, balancing, stooping, kneeling and working about unprotected heights may continue to be a problem, as will walking about uneven or sandy terrain. Nevertheless, vocational rehabilitation potential is excellent. In many instances, no specific worker trait group will be fully eliminated.

Generally, vocational rehabilitation is accomplished in 10 to 12 weeks for those individuals able to go back to their usual and customary work or 24 weeks for those going back to different but related occupations. Those requiring actual training typically will be followed in rehabilitation for a period of 12 to 18 months.

Partial Foot and Toe Amputations

Vocational Handicaps and Rehabilitation

Few, if any, significant vocational handicaps result from foot or toe amputations. In the case of the foot, prolonged standing and walking and gait changes could result in some limitations.

Amputation of a single toe rarely leads to significant vocational handicaps or

limitations in activities of daily living. Even an amputation of the great toe should not significantly affect walking at a normal pace, although a gait change untreated by a physical therapist could later result in back problems. Loss of the great toe results in the loss of the normal push-off, which the toe provides, and possibly, a limp when the patient attempts to run or walk rapidly. Amputation of the second toe generally results in a hallux valgus in which the great toe shifts over to fill the gap. A partial foot amputation generally results in significant gait changes that must be evaluated by a physical therapist. Usually no prosthesis is needed for any type of partial foot amputation, although a stiff shoe providing support and containing an appropriate filler is required. Any amputation performed more proximal to the ankle than the transmetatarsal amputation can result in considerable change in gait and awkward in ambulation.

The impact that such injuries have on work areas, or the jobs and tasks within those areas must be judged on an individual basis. Generally, partial foot and toe amputations involve no more than four to 12 weeks of vocational rehabilitation, assuming the individual can return to similar types of work. A change to alternative jobs of a related nature may involve counseling and guidance of up to 12 to 26 weeks. An actual change in career direction requiring vocational retraining should not involve more than twelve months of rehabilitation intervention.