

# The Psychological Aspects of Amputation Surgery

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## FORWARD

The goal of this article is to present the issues concerning the psychological aspects of amputation surgery in as concise and organized a manner as possible. There appears to be no straightforward approach to dealing with this most complicated topic. Broad terms and descriptions have been used so that the majority of the information could be applied to all populations. It is imperative that one realize that no goal is unattainable, and with that focus in mind, one can attempt to understand the psychological problems of the amputee, if one assumes the responsibility to do so.

## INTRODUCTION

"Psychology is often neglected or glossed over in most works dealing with the rehabilitation of the amputee. This is unfortunate because, in my opinion, emphasis on this subject is necessary. Treating the psychological problems faced by the amputee often has more significance to his life than the quality of the surgery or the nature of his prosthetic device. Training in the broad sense implies, most of all, dealing with the patient's emotional state. Because most of us feel at a loss with these problems, we tend to relegate them to the "back burner" and deal with them by ignoring them. Unfortunately, the amputee cannot ignore them."<sup>1</sup>

The amputee is no different than any other human being that is confronted with a crisis situation, in that he must adapt rather than succumb to the handicapping condition. Difficulties encountered are often due to misperceptions of what life for an individual labeled "amputee" is actually like, and consequently, great problems in rehabilitation result. The rehabilitation process is two-fold in nature, providing physiological and psychological restoration. Ideally, the rehabilitation process should begin preoperatively. In successfully accomplishing the rehabilitation process, one must initially be aware of the basic human needs in every individual's life, necessary to maintain a proper system of equilibrium, for a normal daily existence, including both biological and environmental elements.

Once one is aware of these basic human needs, it becomes apparent that this system of balance becomes disrupted as a result of amputation surgery and, hence, must be reestablished. Postoperatively, this most effectively begins by implementing the use of an immediate or early postsurgical fitting of a temporary prosthetic device. This procedure is not practiced as a means of evading the issue of accepting the loss. In dealing with the goal of psychological rehabilitation, the amputee seldom accepts the loss, rather he adapts to it. Once the person effectively deals with the internal issues leading to successful adaptation to life as an amputee, he may then attempt to resolve the external issues of the amputation itself, and



those issues involving other individuals. Taking into account this synopsis of life prior to and after amputation, it becomes evident that the problems concerning the psychological aspects of amputation surgery cannot be viewed from a single vantage point.

How the amputee deals with the handicapping crisis situation considerably depends upon how he accomplished resolving similar crisis situations prior to the amputation.\* Universal reactions to amputation are characterized by self-pity, anxiety, shock, anger, frustration, and primarily grief:

"The problems experienced by the patient will clearly depend on the limb that is lost, the extent of the amputation, and the patient's reaction to previous experiences of loss in his life. The disability may, therefore, range from complete immobility to the need 'to acquire' new skills and a new life style with an artificial limb. Some patients seem able to cope with this very well and their rehabilitation progresses very smoothly. However, there are some patients who will have to 'unlearn' many things and for whom readjustment is a long and painful process which may never be completed.<sup>2</sup>

Reactions generally are not universally displayed in any chronological order and must be individually accommodated. In addition, how a person envisions the handicapping condition gives rise to his definition of what the loss means internally, thus influencing the individual's self concept. Sidney Fishman, Ph.D. feels that these perceptions are often quite inaccurate and "in most cases, relatively unrealistic and distorted self perceptions result. This is not a surprising assessment

since the patient does not normally have access to any considerable experience with amputees. He does not know what to expect in living as an amputated person, and in view of the rather significant trauma associated with his loss, he tends to focus his anxieties on the amputation and to consider the amputation a more central factor in his life than is realistic."<sup>3</sup> The consequences of this misperception are evident postsurgically through lack of motivation, specifically in the area of rehabilitation.

## THE REHABILITATION PROCESS

Rehabilitation for the amputee can be delineated as a two fold process: (1) Physiological restoration of body function, via implementation of prosthetic replacement extremities, and (2) Psychological restoration of emotional equilibrium. Problems related to the total rehabilitation of the amputee actually evolve from a combination of both the physiological and psychological losses incumbent with amputation, such that, until the time when adequate restoration for both losses, to harvest equilibrium, is implemented by the rehabilitation team, the reacclimation into a normal and healthy lifestyle cannot occur for the amputee.

## PRE-OPERATIVE CONSIDERATIONS

Optimally, it would be best to initiate the process of psychological rehabilitation prior to amputation surgery. Although in emergency amputations this is not possible, in most instances this principle can be implemented. Lawrence Friedman, M.D. feels that "a frank discussion is frequently avoided by both the surgeon and the patient, and this is detrimental to both. A realistic brief discussion of the advantages and disadvantages of each course of action should be an important part of the decision to amputate."<sup>4</sup>

Beginning the rehabilitation process preoperatively allows the patient time to

\*from an etiological perspective, amputations are either acquired or congenital, and are generally classified as to site and level of absence. An acquired amputation classifies the individual who had a normal embryonic development, but after birth, due to some extraneous circumstance, loses a limb in part or in toto. The congenital amputation classifies the individual who, due to some genetic disorder during embryonic development, is born without a limb in part or in toto. The scope of this thesis primarily deals with the noncongenital adult limb amputee, but principally, may be applied to all amputees (i.e. mastectomy, maxillo-facial, etc.) providing certain distinguishable considerations are outlined.



mentally prepare for the amputation surgery. Humm states two essential factors which may be gained from preoperative treatment; "Firstly, physical preparation is started early and the pre-proceptive impulses of balance on two legs are maintained up to the very last moment before amputation (this is most vital for a speedy progress on a prosthesis) and, secondly, it is an excellent time for making a start on the patient's mental rehabilitation by allowing him or her to meet and see other amputees at various stages of training; this is linked with a simple explanation of the importance of exercise before amputation and the reassurance that all is not lost."<sup>5</sup>

Behaviorally, most patients tend to suppress their aggressiveness toward the surgeon as a means of 'plea bargaining' against amputation. At this point, questions by the patient should always be encouraged. It is vitally important that the patient understand that no amputation is performed until all persons concerned have agreed that there is no reasonable alternative but to amputate:

"Amputation is not to be mentioned to him (the patient) until all doctors concerned with the case are agreed that it is indicated and one senses that the patient is mentally prepared. Each of these considerations is an important as the other. When they are both obtained, the keystone of the approach to the patient is to inject each remark with a positive statement or implication that all efforts are being united to give him painfree ambulation."<sup>6</sup>

The decision to amputate must be presented to the patient in the most simplistic manner possible. It is important that the surgeon intermittently reinforce that he is making every possible effort to avoid amputation surgery, but if it is unavoidable, that he reassure the patient's postoperative level of function:

"When the patient and surgeon consider that amputation is the mark point of failure, functional failure is frequently assured. If the patient con-

siders amputation as a lesser degree of success, but still successful in that it restores him to a relatively functional, satisfying life, then the patient and the surgeon and other members of the amputee clinic team have been successful."<sup>7</sup>

Once the decision to amputate has been determined by both the surgeon and the patient, the surgery should be carried out as readily as possible. Delay in amputation often fosters depression, suicidal urges, and universally a fear of death.

## POST-OPERATIVE CONSIDERATIONS

In approaching the process of psychological rehabilitation of the amputee, before further consideration is directed toward the postoperative element, one must have a concrete perception of the basic human needs that must be satisfied in every individual's life in order to maintain the necessary system of balance for daily existence. These human needs in parallel with the rehabilitation process, may also be divided into two interrelated categories, and may be classified as either biological or environmental in nature.

Those needs which are labeled biological are genetically determined at birth, and are generally viewed as survival mechanisms such as hunger, thirst, avoidance of pain, and sexual gratification. On the other hand, the environmental needs are generally acquired through societal views such as the need for achievement, respect, and status: needs must be incorporated into one's daily regime. Although one may assume that these two areas are separate, they are interrelated. In that failure to meet the needs in one category can cause an imbalance in the opposite and/or affected category. Since the amputee is in fact human, it is imperative that he maintain equilibrium in both categories. When focusing on the amputee, it becomes evident that, as a result of the amputation surgery, an obvious imbalance in each category results, varying in degree from



one individual to the next. Because of the physiological permanence of amputation surgery, one must be aware that restoring equilibrium is a seemingly insurmountable process, but one which can be successfully accomplished through motivation in a rehabilitation program.

Keeping in mind that the basic human needs of the amputee have been disrupted as a result of amputation surgery, several postoperative issues may now be considered. In order to achieve the most effective state of equilibrium, prosthetic devices must be provided in order to restore appropriate function and appearance. Postoperatively, use of rigid dressings protects the wound site and may also serve as a socket for an immediate postoperative prosthesis.\* Ernest Burgess, M.D. states the following advantages to immediate and early prosthetic fittings:

"Physical and psychological advantages are attributed to this functional immediate prosthetic system. The patient does not undergo a limbless time interval. Some degree of functional restoration begins immediately. Established pathways of neuromuscular control are less likely to fade with early limb use. Residual limb pain is described as being seen far less in the patient who has a rigid dressing immediately after surgery than with the conventional soft tissue management. The time for the limb maturation and overall amputee rehabilitation, including hospitalization, is reported to be considerably shorter with this system. The general physical and mental state of the patient is benefitted by early general physical activity as well as physiological limb function."<sup>9</sup>

Sidney Fishman, Ph.D., further stresses the psychological benefits of an early prosthetic fitting:

"Immediate and early prosthetic fitting procedures have major psychological values in reducing the extent

of the actual and perceived disability and consequently of the psychological trauma associated with it. This is possible since the patient is never (or for a very short period) without a limb (albeit an artificial one). The immediate availability and wear of a prosthesis may legitimately tend to reduce the extent of the defensive reactions required. This in turn tends to facilitate the process of acknowledgement and adaptation."<sup>10</sup>

Burgess concludes and reinforces the views on immediate postoperative fittings of the prosthesis\*\* by stating:

"The rapid transition from limb loss to function bespeaks hope. This motivation can make the difference between effective rehabilitation and failure."<sup>12</sup>

Although not always successful, the ideal goal of immediate postoperative prosthetic fittings is to enhance the emotional psyche of the amputee by restoring function, thus speeding the recovery time. It is not, however, designed to evade the issue of amputation. It is imperative that the amputee work through this issue in order to reestablish a normal psychological outlook.

## STAGES OF ADJUSTMENT

Losing an extremity is very similar to losing a loved one. Dr. Elisabeth Kubler-Ross in her book *On Death and Dying* explains several stages an individual will go through in attempting to work through their own death explaining, "the harder they struggle to avoid the inevitable death, the more they try to deny it, the more difficult it will be for them to reach this final stage of acceptance. . . ." <sup>13</sup>

\*Berlamont (Berk Plage), in the services of professor Deberyre, started using this technique in 1958. In 1963 Weiss reported this method of myoplastic amputation and immediate postoperative fitting of the prosthesis (I.P.O.F.P.) at the Sixth International Prosthetic Course in Copenhagen. The same year he visited the University of California, San Francisco Medical School, and the U.S. Naval Hospital, Oakland. Following this visit an I.P.O.F.P. was started at the U.S. Naval Hospital, Oakland and a Veterans Administration Project to investigate I.P.O.F.P. was given to the Prosthetic Research Study Group in Seattle.<sup>11</sup>

\*the postoperative fitting is immediate if the prosthesis is applied before the sutures are removed, and early if it is applied after removal of the sutures but before the patient is ready for permanent fitting.<sup>8</sup>



Similarly, Lawrence Friedman, M.D. states in *The Psychological Aspects of Amputation Surgery* that:

"The finest reaction to the amputation is more or less acceptance of the fact and regarding it as something to be overcome. This provides the foundation for prosthetic use success and success in meeting life's goals. If, however, the amputee uses the amputation as a means of justifying his dependency needs or as a means to avoid competition, then the secondary gain derived from these feelings assures that the patient always complains about the prosthesis and blames all of his personal inadequacy and failures on the lack of perfect functioning prosthesis. . . . I feel that most amputees never totally accept their loss, but learn to deal with it, and this is true irrespective of the type of treatment that they have received."<sup>14</sup>

When dealing with the psychological adjustment of the amputee it is important that the proper perspective be maintained as to what the goal of the rehabilitation process actually is. It may be postulated that most amputees rarely accept their loss such that, the goal of amputee rehabilitation should more realistically be adaptation of the loss. Fink imposes a theoretical approach to the psychological rehabilitation of individuals with a handicapping conditions by describing four sequential stages of adjustment: (1) shock, (2) defensive retreat, (3) acknowledgment, and (4) adaptation.

### *Shock*

"Essentially, shock is the patient's initial response to a threat to self-preservation, leaving the individual emotionally and intellectually numb and manifested by disruption of organized thinking. The individual has no plan of action and is essentially without psychological resources. The reality of the situation is too much to handle, resulting in overall helplessness."<sup>15</sup>

Lawrence Friedman, M.D. indicates that telling "a patient that he will not be helpless and dependent if he participates in a rehabilitation program is what is most important."<sup>16</sup> Preoperative discussion of shock does help the patient deal with it postoperatively. It should be noted that during this stage suicidal impulses are prevalent and should be handled accordingly. If the patient is just talking about suicide, take note of the issue but do not overreact, as it is usually just an attention getting device based on self pity and despair, indicative of a search for self worth. If, however, the patient has a clear cut, premeditated method of carrying out the act, then it is suggested that the patient be removed from the continued care ward and placed in a psychiatric care unit so that closer observation can be provided. Shock is most severe when seeing the residual limb for the first time, especially since phantom\* sensation often prevails. Similarly, "seeing the scar for the first time is always a traumatic experience."<sup>18</sup> Both are continuous reminders of the disfigurement of amputation surgery.

### *Defensive Retreat*

"As the patient's resources begin to mobilize, this phase of the adjustment process is prompted by anxiety reduction, and energy is therefore invested in keeping circumstances under control. The phase is characterized by a clinging to the past through the use of avoidance mechanisms (fantasy, denial, magical, and rigid thinking)"<sup>19</sup>.

One way in which the amputee denies the amputation is via overcompensation through excelling in recreational activities or working excessively hard. Friedman refers to these patients as being "professional amputees" and comments that "these people deny that any disability exists. They engage in sports and many other activities of the nonamputee and, in fact, may spend considerable time proving how well they can function as amputees."

\*psychiatric theories tend to relate the phantom to wish fulfillment resulting from the denial of the loss of a part, and pain is explained as resulting from denial of effect associated with the loss.<sup>17</sup>



These people demand treatment from others as nonamputees."<sup>20</sup>

### *Acknowledgment*

"This is a period of renewed psychological stress resulting from breakdown of the prior defenses because of lack of reinforcement of these defense mechanisms resulting from inadequate satisfactions. During this period the patient usually recognizes changes in his physical self, thus provoking a period of stress characterized by depression and mourning. At the same time there are the beginnings of intellectual and emotional reorganization which proceeds in a unique and variable pattern for each patient."<sup>21</sup>

Once the patient desires to implement the use of a prosthesis, the disability is reduced such that he finds it easier to adapt to the fact that a disability exists. Friedman feels that the patient is "less shy and more gregarious. They react better to people, either in or outside of the therapeutic situation. Their relationships with their families improve since they do not feel themselves as dependent and frustrated."<sup>22</sup>

### *Adaptation*

"The extent to which the patient succeeds in this reorganization process depends on his growth needs to develop a renewed self-respect, productivity, achievement, and social acceptance. This phase of adjustment is optimally characterized by the patient's willingness to take the necessary physical and psychological risks normally associated with the rehabilitation process."<sup>23</sup>

Similarly, Sidney Fishman concludes that "rehabilitation may be said to be successful when the amputation and its related considerations are no longer the central adjustment problem for the individual. As the ability to use the prosthesis more automatically, or subconsciously increases, as the client's awareness of being physically different becomes less threatening,

and as the amputation becomes a minimal source of interference in his/her life activities, the elements of successful rehabilitation have been approached."<sup>24</sup> If the definitive prosthesis cosmetically appears to resemble a normal extremity the individual will feel normal, however, the patient must realize that "the provision of a prosthesis is but one step in a long journey that started before amputation, and will continue for a prolonged period after the prosthesis is received. The prosthesis is not an end in itself, but a means to the end of returning the patient to his maximum attainable place in society."<sup>25</sup> Once the patient is able to effectively deal with the internal issues, successfully adapting to life as an amputee, he may then attempt to resolve issues involving other individuals.

Speck feels that the manner in which the hospital staff deals with the conceptual aspect of disfigurement and surgical loss will have an effect on shaping the "patient's reaction and that of the family. It is not unusual to find a patient who has done well in the hospital regress when he returns home, because the family is not psychologically prepared to continue the rehabilitation. The family is an integral part of the rehabilitation team and should seek out educational opportunities to effectively take part in the process."<sup>26</sup> In general, our society tends to be obsessed with the ideal human form, such that any individual who may deviate from this flawless imagery, is labeled as 'different.' Because Americans are so caught up with this accepted norm, they fail to realize the overwhelming emotional impact of being confronted with the destruction of body image through amputation. Not only does the amputee have to learn to get along without the extremity and adapt to using some type of prosthesis, which never compares with the body portion that it replaces, but must also deal with many tangentially related psychosocial issues,<sup>27</sup> such as sexual dysfunction. Once the amputee has adapted to amputation, the main focus of rehabilitation then is reintegration back into as normal a life style as possible.

It is very important that the topic of sexuality be considered. Ultimately, we are



dealing with a very sex-oriented society, and since the amputee is very much a part of our society, he shares the same rights to this human need. Limb amputation often presents difficulties between partner relationships, resulting in the need for support and reassurance from those individuals who have undergone similar surgery. Problems encountered may result from disruption in preestablished patterns of coital behavior, interference with balance, and phantom pain occurring at orgasm. Very little has been written on the sexual aspects of rehabilitation, primarily because of the unrealistic concept of 'asexual aging' in our society. During the rehabilitation process it is vitally important to encourage sexual function, to the degree the amputee feels comfortable. Concealing the amputation often presents serious psychosexual difficulties, basically due to the fact that, at some point during intimacy, the amputation must be revealed.<sup>28</sup>

## DISCUSSION

The psychological aspects of amputation surgery yields several major problem areas that must be approached in a perceptive manner. As an outsider, one must intuitively realize that life for the amputee has been severely disrupted in a multi-faceted manner, in that he loses much more than 'just a limb' as result of amputation surgery, specifically, the right to be considered a 'normal human being.' "The psychological consequences of having an obvious disability reflect not only the patient's sense of loss and shame, but also society's evaluation of what disability is and acceptance of disabled individuals. Unfortunately, society still too often wrongly considers the amputee a useless cripple."<sup>29</sup> The amputee becomes a victim of social prejudice, a public spectacle of awe, bewilderment, and chastise. Marriage becomes a mirage of hope for those amputees who have not yet married, and divorce becomes an inferno of reality for those who have. Similarly, being able to maintain one's previous vocational interests, not to mention the obstacle of being forced to make alternative career choices are prevalent issues concerning the indi-

vidual who has undergone amputation surgery. These are problems that must be solved by all of society, not just the amputee alone. Lawrence Friedman upholds that "this is the challenge to all of us. How amputees are treated in the future reflects on our civilization and on our concept of rehabilitation: our actions today will be tomorrow's history."<sup>30</sup>

## NOTES

<sup>1</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 17.

<sup>2</sup>Speck, Peter W., *Loss and Grief In Medicine*, London: Bailliere Tindall, 1978, p. 72.

<sup>3</sup>Fishman, Sidney, *Rehabilitation Literature: Amputee Needs, Frustrations, and Behavior*, November 1959, Volume 20, Number 11, p. 312.

<sup>4</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 27.

<sup>5</sup>Humm, W., *Rehabilitation of the Lower Limb Amputee for Nurses and Therapists*, London: Bailliere Tindall, 1977, p. 18-19.

<sup>6</sup>Warren, Richard; and Record, Eugene E., *Lower Extremity Amputation for Arterial Insufficiency*, Boston: Little, Brown and Company, 1967, p. 31.

<sup>7</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 31.

<sup>8</sup>Bender, Leonard F., *Prostheses and Rehabilitation After Arm Amputation*, Illinois: Charles C. Thomas, Publisher, 1974, p. 34.

<sup>9</sup>American Academy of Orthopedic Surgeons, *Atlas of Limb Prosthetics*, St. Louis: C.V. Mosby Company, 1981, p. 21.

<sup>10</sup>Garrett, James F., and Lavine, Edna S., *Rehabilitation Practices with the Physically Disabled*, New York: Columbia University Press, 1973, p. 400.

<sup>11</sup>Fulford, G.E.; and Hall, M.S., *Amputation and Prostheses: A Survey in N.W. Europe*, Bristol: John Wright and Son, Ltd., 1968, p. 13.

<sup>12</sup>Burgess, E.M.; Romano, R.L.; Zettle, J.H.; and Schrock, R.D., Jr., *Amputations of the Right Leg for Peripheral Vascular Insufficiency*, *Journal of Bone and Joint Surgery*, 53 A, 5:874-890, 1971.

<sup>13</sup>Kubler-Ross, Elisabeth, M.D., *On Death and Dying*, London: McMillan Company, 1969, p. 101.

<sup>14</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 55.

<sup>15</sup>Fink, J.L., *Crisis and Motivation: A Theoretical Model*, *Archives of Physical Medicine and Rehabilitation*, 48:409, Nov., 1967.

<sup>16</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 36.

<sup>17</sup>Solomon and Schmidt, *Burning Issue: Phantom Limb Pain*, *Arch. Surg* 113 (2) 185, Feb., 1978.

<sup>18</sup>Winkler, Win Ann, *Post Mastectomy: A Personal Guide to Physical and Emotional Recovery*, New York: Hawthorne Books Inc., 1975, p. 29.

<sup>19</sup>Fink, J.L., *Crisis and Motivation: A Theoretical Model*, *Archives of Physical Medicine and Rehabilitation*, 48:410, Nov., 1967.

<sup>20</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 39.

<sup>21</sup>Fink, J.L., *Crisis and Motivation: A Theoretical Model*, *Archives of Physical Medicine and Rehabilitation*, 48:410, Nov., 1967.

<sup>22</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 57.

<sup>23</sup>Fink, J.L., *Crisis and Motivation: A Theoretical Model*, *Archives of Physical Medicine and Rehabilitation*, 48:410, Nov., 1967.

<sup>24</sup>Fishman, Sidney, *Rehabilitation Literature: Amputee Needs, Frustrations, and Behavior*, November 1959, Volume 20, Number 11, p. 328.

<sup>25</sup>Friedman, Lawrence W., *The Surgical Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 289.

<sup>26</sup>Speck, Peter W., *Loss and Grief In Medicine*, London: Bailliere Tindall, 1978, p. 77.

<sup>27</sup>Lewis, R.C., Jr.; and Bickel, William H., *Hemipelvectomy for Malignant Disease*, *Journal of the American Medical Association* 167:8, 1957.

<sup>28</sup>Comfort, Alex, *Sexual Consequences of Disability*, Philadelphia: George F. Stickley Company, 1978, p. 230.

<sup>29</sup>Friedman, Lawrence W., *The Psychological Rehabilitation of the Amputee*, Illinois: Charles C. Thomas, Publisher, 1978, p. 98.

<sup>30</sup>Ibid, p. 16.