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AMPUTEE MANAGEMENT PROCEDURES[1]

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The object of our attention is a man, woman, or child, who has undergone amputation of part of one or more limbs. Physiological, psychological, social, and economic constraints obviously influence the mode of treatment. A further constraint on the treatment process, and not so obvious, is the level of skill which can be brought to bear on the patient's problems. From a prosthetic point of view, superlative skill can do a great deal toward making inadequate hardware acceptable. Excellent components, on the other hand, cannot mask inadequate skill. The amputee's well-being rests heavily on the competence of those dealing with him, and especially on the skill of the prosthetist. Among the important skills needed by the prosthetist is the capacity to understand how the amputee feels and thinks about what is going on around him. Also, the prosthetist needs to understand his role in the treatment process and the roles of others associated with him in delivering care to the patient.

Nothing that can be said here will take the place of firsthand experience. This discussion can only draw attention to the accumulated experiences of others so that the prosthetist may confirm his own experiences, gain new insights about them, develop new insights by considering outside experiences, and set the stage for accumulating new experiences in the future.

The new amputee requires the more complicated scheme of treatment with respect to prosthetics. His stump is not stable. His concepts of his new status are just developing. He has social and psychological pressures yet to be dealt with. He may also have unresolved medical problems associated with his disability. In contrast, the experienced amputee has dealt with many of these problems as well as he ever will, and his needs are more specific and simple. In all cases, however, the prosthetist's role is to provide a prosthesis that is comfortable, will stand up in use for as long as possible, is a reasonable representation of the missing leg cosmetically and functionally, and is made in the least amount of time for the least expense commensurate with providing the required functions. In this he has the aid of the clinic team.

THE PROSTHETIST AND THE CLINIC TEAM

The clinic team is organized to provide the plan for prosthetics care. Before a plan can be developed, the patient must be categorized in terms of his social and physical status. The physician, social worker, therapist and prosthetist must develop as much insight as they can toward this end. The prosthetist will use information offered by the other teammates, and will contribute his share toward making a meaningful plan. Some information of use only to the prosthetist, such as that needed to design the socket, suspension, and alignment, has to be gathered as well.

At what stage data accumulation starts depends on the setting. Preferably, it will start preoperatively. The advantages of involving the prosthetist at that stage are that he can advise the surgeon, collect some of the data that will be needed later, and make himself known to the patient, and to some extent let the patient know what can be done for him. The moral support gained by the patient from contact with his prosthetist prior to amputation is tremendous, and has been demonstrated many times where immediate postoperative fittings have been carried out. When the patient sees the prosthetist after amputation, the earlier introduction has provided him with more confidence in the likelihood that he will walk again.

Preoperative involvement of the prosthetist with amputees is often held back because sur-

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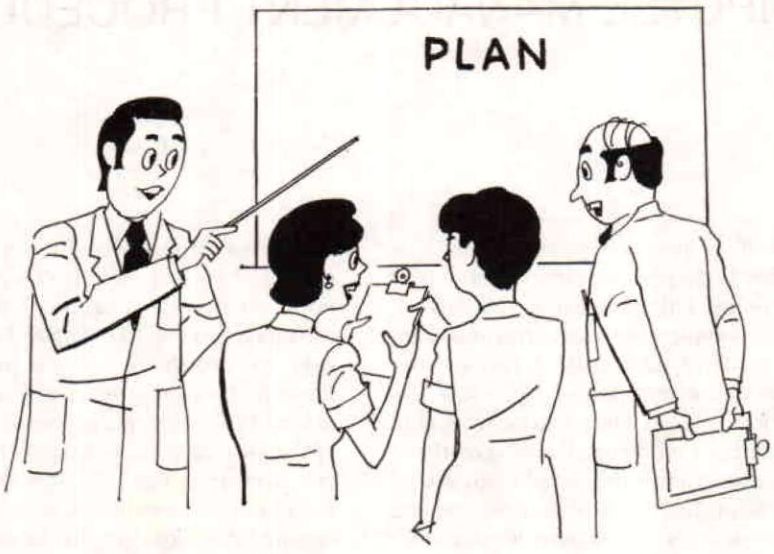

The clinic team is organized to provide the plan for prosthetics care.

geons have not developed a sense of the potential value of the prosthetist at this stage. Immediate postoperative fittings have highlighted this potential somewhat, but amputation surgery is not done frequently enough by surgeons familiar with prosthetics and willing to see the amputee through his entire rehabilitation process. From the rehabilitation point of view, it would be more satisfactory if amputation surgery were a specialty. Then continuity would be ensured, and stronger team support would develop. The ideal arrangement is to have the team on the job from beginning to end, with the prosthetist included as an important team member.

Such ideal circumstances seldom exist. The worst state likely to be encountered by the amputee is when the prosthetist receives him without a plan, and must provide an artificial limb, give some training, and maintain care without assistance. Such conditions are encountered very much less often now than was once the case. When they are, the prosthetist should try to get the involvement of other professionals. Fortunately, it is more usual now for a rehabilitation unit with a team to guide the rehabilitation of the amputee, and for all members within the team to guide the rehabilitation of the amputee, and for all members within the team to cross-educate each other and to attend formal education courses and seminars together. There is an increasing incidence of amputation for diseases of old age. Such patients need not only prostheses but medical care as well. Prosthetists need to know how to function within the medical setting and to understand their role and that of the other team members in planning the amputee's care.

RAPPORT

Service provided in a local limb shop without the assistance of a clinic team runs smoothest for the established amputee. Established patients, under these circumstances, develop a good relationship with the prosthetist, and the clinic teammates must be careful not to damage this rapport. Similarly, when the clinic team must become involved with an established amputee, the prosthetist must be careful not to undermine the team.

Often, involvement with the clinic team brings the prosthetist into contact with other prosthetists. Here he must be careful not to cause discord, and if necessary must foster good relationships between patients and other prosthetists. It is a matter of ethics—the patient comes first. Doubts that exist concerning what his prosthetist colleagues are doing for a patient must be aired in such a way that the patient's confidence is not undermined, and the patient's interests are fostered best.

A prosthetist who is a member of a clinic team should always be a paid member so that he has no division of loyalty toward the patient. He is there as an expert to give the best advice he can. Team members should nurture the relationship be-

Doubts brought about by disagreement among prosthetists.

tween a patient and his prosthetist for smooth implementation of the plan, regardless of whether the prosthetist is based in the rehabilitation unit or in a commercial limb shop. Displays of contempt toward the prosthetist, who has the hardest job and must deal with the amputee for the longest time, can only undermine the effectiveness of treatment. The situation the prosthetist has to deal with is not a static one. Plans must be sufficiently flexible to permit adaptation to realities.

Frequent socket changes, especially for patients receiving their first prosthesis, can lead to misunderstandings between prosthetist, clinic team members, the amputee and sponsoring agencies. Money and time are involved. Critical judgments must be made during planning so that potential frictions are avoided. Thus, the prosthetist will be more likely to get the sympathetic and practical support he needs as he proceeds with the established plan. The well-being and security of all team members are prerequisites for the best use of existing skills.

The clinic team is not only a planning and review body but a forum for self-education of its members. Where skills are deficient, special training is required. If incompetence persists, change is mandatory. The patient comes first.

THE PROSTHETIST IN THE CLINIC TEAM

Because this discussion pertains primarily to the prosthetist, his role in the clinic team must be examined. A yes-man or rubber stamp will not do. He must have, and demonstrate, as much knowledge as the patient's needs require of him. This understanding will include knowing what the other team members do and their relationship to his role in the rehabilitation of the amputee. When a problem arises, he must be able to deal with it by application of his art and through communications with other members of the team. He must keep the clinic chief informed, leaning on his advice as necessary. He must help to keep things moving by dealing with problems promptly. They seldom go away. Often, the clinic team functions best when the details of planning are dictated by the course of events in the rehabilitation process, so that problem-solving develops out of continuous, spontaneous intercommunications. The formal clinic may best be reserved for solving major problems in depth, and for review-

A "yes" man or "rubber stamp" is not satisfactory.

ing progress on established plans, leaving the routine parts of treatment to be dealt with on a day-to-day basis by those qualified to make decisions.

It is not typical for prosthetists to do a prior work-up of patients. Hence a prosthetist often comes to a clinic "cold." This type of procedure is unsatisfactory. The prosthetist should be in a position to tell members of the team what can be expected in terms of stump shrinkage, the number of sockets likely to be required, how the patient might be handled to minimize cost and time requirements, the types of components and the system of suspension best suited to the patient, and what is likely to unfold in terms of the patient's performance on a prosthesis. This requires a study of the patient by the prosthetist before the clinic deliberations begin.

In his work-up of the patient, the prosthetist is interested primarily in the stump. But he should also be interested in the psychological, medical and social factors which are likely to influence results, and attempt to gain insights directly from the patient without prying in order to supplement what he will get from other team members. How he proceeds with the work-up will depend on whether a new or established amputee is being dealt with. In the first case, he has to start from scratch. He may, for example, wish to do a trial fitting as a part of his investigation of the amputee, or have him on a temporary prosthesis. With the mature amputee, he has access to previous records, X-rays, etc., which he should study. He will also have built up a detailed collection of facts and impressions about the patient from previous encounters. For this reason, it is best that an amputee not be shifted arbitrarily from one prosthetist to another. Such a change should be reserved for cases where the patient has lost confidence in the prosthetist. When a prosthetist is new to a patient, he must build up understanding about his patient. He doesn't start from "square one," however. The prosthetist can learn quite a bit from the patient, from the previous prosthetists, and from the prosthesis being used. Records and advice from other team members will fill out the details.

Also influencing the prosthetist's work-up is whether the planning relates to a new prosthesis for an established amputee, involves tracking

down problems with an existing prosthesis, or involves making a replacement socket. When making plans for replacement of a socket, it is sometimes wise to make a replica of the existing socket if the stump is healthy and the socket is functional. In any case, when the amputee is already wearing a prosthesis, the prosthetist's work-up must include a careful evaluation of the existing prosthesis and an examination of the stump for effects the prosthesis may be having on it.

To assist him, the prosthetist has the contributions that can be made by the other team members. The physician is the main support because he knows what has gone before and what other people are doing for the patient, and it is towards him that the patient usually looks for help in a variety of matters. It is the doctor's role to evaluate the patient medically, as the medical factors relate to prosthetics, and to tell the prosthetist what he needs to know. This includes:

- when the patient is ready for fitting
- the patient's potential as a prosthesis user
- any medical factors which might influence prosthetics care as management proceeds
- any factors inherent in the stump which might bear on how the fitting should be done

Any stump conditions that X-rays may reveal should be demonstrated to the prosthetists by the doctor. Pain and its probable cause, whether related to neurological conditions, such as neuromas, or circulatory disturbances such as are encountered in arteriosclerosis, need discussion and clarification. The rate and vigor with which prosthetics management can proceed need to be defined. Heart condition, condition of the remaining limb, and general body condition are other factors which are relevant.

HELP FROM THERAPISTS

The therapists can help. They will know about the strength of the patient, and particularly about his coordination and muscle tone. Between them, the doctor and the therapists can develop a plan of therapy that will make the most of what potential the patient has.

The occupational therapist can help assess the capabilities of the patient to handle daily routines of living and working so that the prosthesis can be designed to make the best use of existing potential, and best serve the patient's needs. When the social worker knows what level of restoration is possible through therapy and prosthetics, it is possible to make provision for whatever social adjustments are required to derive the best benefit for the patient.

The therapists can also keep track of progress during the treatment process, communicating findings freely to the prosthetist so that adjustments and socket replacements, or progress from stage to stage can proceed without unnecessary interruptions and delays. Often, the therapist who trains the patient to use the prosthesis will learn from him sooner than the prosthetist just how he really feels about his artificial limb. The prosthetist should take such information in an impersonal way, and use it to get the best results possible for the patient.

The therapist can let the prosthetist know of factors developing out of therapy which seem connected to the prosthesis so that adjustments to alignment or to the socket can be made opportunely. Often, a therapist and prosthetist work together so harmoniously that the therapist can make minor changes in alignment and length without the prosthetist being involved. Such arrangements can be very useful and develop out of mutual respect based on each educating the other.

THE ENGINEER

More frequently now, the engineer becomes involved in treatment. This is especially so where there are research units associated with clinical activities. New devices and techniques must be checked out clinically. The engineer needs to learn the prosthetist's language and teach other team members his own. He must refrain from meddling where he is not competent. At the same time, if he does become involved clinically, he must be prepared to take full responsibility for all areas of his involvement. Patient care must not be dragged out or interrupted. Constant monitoring by the doctor, under whom the whole process goes on, must be carried out so that the patient's welfare remains paramount.

With the prosthetist, the engineer needs to establish a careful and considerate bond. It is too easy to confuse higher education with higher capabilities. Usually, as programs are currently organized, the engineer is involved for reasons other than the management of the patient. The engineer's needs must take a backseat to management while he uses his analytical skills to influence other team members through questions and answers. He must be prepared to accept the fact that his bright ideas will move into practice only at a slow rate.

THE SOCIAL WORKER

The social worker who wants the patient's desires reflected in the treatment results can be valuable in checking home environment, work environment, social connections, and patient history so that what is done from a prosthetics point of view is a realistic reflection of what the patient wants and needs. If what the patient wants is unrealistic, the social worker can, standing apart from the mechanics involved, help bring the patient to a better understanding and acceptance of his state.

AMPUTEE PSYCHOLOGY

Obviously, an amputee is still the man he was before amputation. Amputation may, however, bring latent characteristics of significance into sharper focus. The response of a person to amputation depends in great measure on its cause. Amputation may be a warning of ebbing life. It may give relief from pain, or remove an unsightly burden. The patient, rightly or wrongly, may feel that negligence was involved in the loss of his limb. Both grief and anger will be the result. Grief and guilt will be the feelings of a man who loses his leg through his own carelessness. Loss through accident will spawn feelings of grief and mourning. Loss in this case is a tragedy like death. In addition to the feelings resulting from the loss of a limb are feelings of anxiety related to the processes of rehabilitation and of life. Will he walk again? Will he be able to cope with his past familiar pattern of life? Will he be able to return to work? To family? To friends? How will he stack up in competition with others similarly disabled? What are the expectations of those involved in his rehabilitation? And one major question seldom considered even by those who treat amputees, and this can even be a thought among the elderly, is "will I be sexually acceptable?" A castration complex has been postulated.

If the patient feels he is poorly dealt with during rehabilitation, an otherwise satisfactory response to amputation can be spoiled. Conversely, good handling can work against negative feelings unless they are deep and bitter. It is difficult for a

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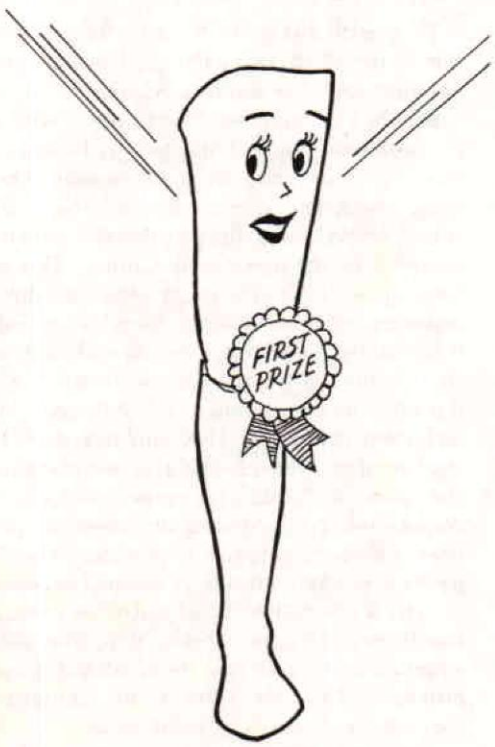
human being to accept that others can take lightly what he himself sees as a crisis. He is not persuaded otherwise by knowing that to the treatment staff disability is a familiar and accepted fact in their daily lives. His unique position is firmly entrenched and must be recognized by those who deal with him. The more technically competent the prosthetist is, the less stressed will the patient be. This competence of the prosthetist must be evident in care for the patient and the details of his art, including the condition of his equipment, the finesse with which he applies himself, and evidence that he himself is not hampered by psychological problems. A brazen stance will not help the prosthetist if he cannot deliver the goods. He will be found out soon enough. There are no substitutes for honesty and a genuine interest in the patient and in prosthetics.

Nothing helps an amputee adjust better than rehabilitation among his own kind. Also, knowing the prosthetist early, even preoperatively, is valuable. Quick initiation of prosthetic services is also good medicine. A prosthesis that has good cosmesis has a positive effect; even training limbs should be of good quality from a cosmetic point of view, or show promise of eventual good cosmesis.



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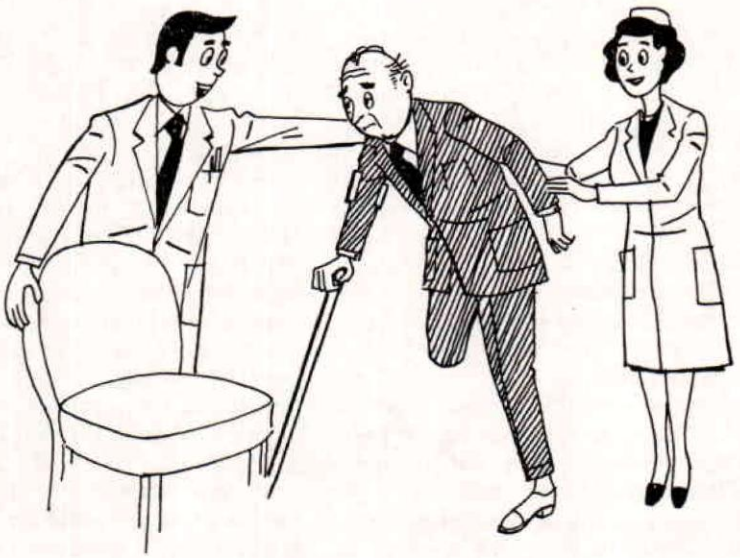
With the initiation of rehabilitation, a surge of optimism usually follows. The amputee begins to see the possibilities of overcoming his loss, facing his family, going back to employment, reestablishing his social ties and activities, and returning to a familiar environment. The frustrations he has because of reduced function, and the need for learning new skills with and without the prosthesis, dampen the initial optimism if he is not well informed as to what the course of events is likely to be.

Even rehabilitated, he finds that the transition back into the stream of life is not cut and dried. The reaction of his family, especially the mate, is of crucial importance. Instances abound in which a spouse finds amputation difficult to adjust to. It often means more work, may disrupt intimacy initially, or scar a relationship deeply if difficulties preceded the fact of amputation. Over-solicitous friends and family impress the amputee with his disability when he wants more strongly to appear normal. Conversely, he may, in some instances, become a tyrant, using disability for attention and support. Firm, gentle, consistent good manners toward him are in order. He has enough to bear, unless amputation was in fact a blessing. Even then, it is surprising how often an amputee will gloss over or forget previous pain when faced with a different pain.

Among other factors which touch on the psychological impact of amputation, the amputee's expectations in lawsuits or reimbursement can affect the tone of treatment. Objectivity on the part of the prosthetist is required. The prosthetist should stick to his own business, and stick to facts. If he suspects that his best efforts are being frustrated by what some have called the "green poultice" problem, he should make this known in clinic when he has the case reviewed for help in the difficulties he experiences.

It is important for the prosthetist to recognize the state of the patient from the psychological point of view so that he can have the pertinent facts in mind as he does his own job. A complaining attitude directed toward disability and the prosthetis or the prosthetist may not involve the prosthetics service at all. Cultural factors are not without relevance. Some people tend to whine and grizzle at any setback. This reaction need not



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be taken seriously. On the other hand, some patients are so stoical that real difficulties develop before they make a complaint. Sometimes important damage is done as a result. A wise eye as to the possibility of these factors becoming involved is needed.

By knowing the patient, the prosthetist can ease his own tasks without burdening the patient further, which should be the aim. The prosthetist is usually not much better at psychology than the patient! There is always the physician to fall back on, and beyond that the clinic team, if the going gets rough. Scheduling the patient back into clinic can give a needed breathing spell to both the prosthetist and the patient. Sometimes an impasse between prosthetist and patient becomes so severe that a different prosthetist must take over.

The prosthetist must not lose his patience. He should not make the patient feel guilty under any circumstances, or feel guilty himself, but leave the situation on as positive a note as possible, on the assumption that he will very likely become involved with the patient again. If he leaves the scene graciously, re-encounter will not be an embarrassment to either.

Struggle, whether prosthetist's or patient's, is not necessarily to be avoided since it can give satisfaction to have endured the difficulty and won through. If the patient feels that he has made a contribution to his own advance toward acceptance and achievement in the process, he will be the better for it.

OTHER PROBLEMS

The prosthetist has to deal with the established, semi-established, or new case. Each presents a different set of problems. Naturally, the more experience the amputee has the fewer should be his problems. Such difficulties as the amputee may have can arise from relationships in the home, from the community and the working situation. For some, the prosthesis is a focus for escape from the unpleasant realities. This problem is none of the prosthetist's business unless it impinges on his ability to perform his own job, or is something about which he can make a positive contribution to the patient's well-being. Sometimes the newer amputee, rehabilitated, lingers on for prosthetic care. He complains of one thing after another, often changing his complaints as he goes along, or flooding the scene with a variety of complaints, even avoiding definition of specific ones. This can be especially prevalent when he is trying a new prosthesis. A gradual increase in activity level, until he gets tired of the game, will usually save the prosthetist time and get the amputee into a different mode of attack on his problems. Here the clinic team, including the social worker, needs to be informed.

There is also the natural resistance to change. While he wants a new prosthesis, the patient wants it to feel like his old one even though he had problems with it!

Taxing the patient harder as he taxes the pros-

thetist more can often break a situation where the prosthesis is a poor excuse for resistance. But a prosthetist should be careful about using such a tactic, even when he is sure that the prosthesis is right and the patient is balking. The physician should be involved in an effort to resolve things quickly.

An example of using such a forcing technique may be cited: The patient was fitted with a new limb, and almost immediately complained of discomfort. (Often a patient is not aware of the degree of discomfort that must be endured as part of the process of adapting to a prosthesis. Any force on the stump is considered unacceptable.) He was asked to walk for an hour in order that the difficulty might be better defined. After an hour there were no obvious signs of stump irritation and some discussions about the application of forces necessary were carried out. The patient was less sure, but insisted he would try again, although he felt discomfort. After a second session of two hours, activity being increased in intensity, he returned for further inspection, and the process was continued. Finally, the patient indicated that the prosthesis was better than he had originally thought, and that he was somewhat surprised at just how much he could do on it. During the succession of following trials in which activity was kept high, no changes were made, nor was there any evidence that changes were needed. This episode broke a five-year history of rehabilitation on many prostheses, during which time the patient had not worked. Within two weeks he went back to work, and generally assumed a more natural routine.

In situations where the prosthesis, and indirectly the prosthetist, is the sticking point, the physician should be involved to get at the seat of the problem and get things moving.

Among new amputees in training, deterioration of socket fit due to stump changes should be anticipated and the amputee reassured. He will sometimes ask why it is that his difficulties are multiplied while he has in fact undergone considerable rehabilitation. He wonders why it is not the reverse. It should be pointed out that (a) the stump is shrinking, and (b) his activity level is increasing. Adjustments will be made at the appropriate time, and function thereby improved.