

Replantation

“Replantation” is the surgical reattachment of a finger, hand or arm that has been completely cut from a person’s body (**Figure 1**). The goal of replantation surgery is to give the patient back as much use of the injured area as possible. This procedure is recommended if the replanted part is expected to function without pain.

In some cases, replantation is not possible because the part is too damaged. If the lost part cannot or should not be reattached, your surgeon may offer to clean, smooth and cover the cut end. This is called a completion or revision amputation. In some cases, this option will give you a better and faster recovery than replantation.

Procedure

There are a number of steps in the replantation process.

Step 1: Damaged tissue is carefully removed.

Step 2: Bone ends are shortened and rejoined with pins, wires, or plates and screws. This holds the part in place to allow the rest of the tissues to be restored.

Step 3: Muscles, tendons, arteries, nerves and veins are then repaired. Sometimes grafts or artificial spacers of bone, skin, tendons and blood vessels may be needed, too. The grafts can be from your own body or from a tissue bank.

Recovery

Patients have a very important role in the recovery process. Generally, patients should:

- Avoid smoking, as it may cause loss of blood flow to the replanted part.
- Keep the replanted part above heart level to increase circulation.

Other factors that may affect recovery are:

Age. Younger patients have a better chance of their nerves growing back. They may regain more feeling and movement in the replanted part.

Area of injury. Generally, more use will return to the replanted part if it is further down the arm.

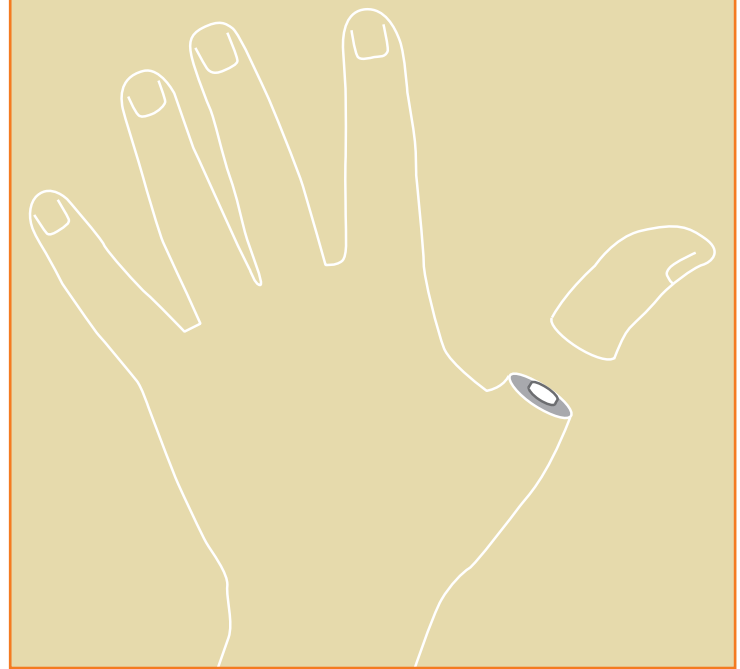
Joint vs. non-joint injury. More movement will return for patients who have not injured a joint.

Severed vs. crushed body part. A cleanly severed part usually regains better function after replantation than one that has been pulled off or crushed.

Weather. Cold weather may be uncomfortable during recovery, regardless of how well your recovery is going.

Use of the replanted part depends partially on re-growth of two types of nerves: sensory nerves that let you feel and motor nerves that tell your muscles to move. Nerves grow about an inch per month. The number of inches from the injury to the tip of a finger gives the minimum number of months after which the patient may be able to feel something with that fingertip. The replanted part never regains 100% of its original use, and most doctors consider 60% to 80% of its original use an excellent result.

Figure 1. Replantation refers to the surgical reattachment of a finger, hand or arm that has been completely cut from a person’s body.



Rehabilitation

For replant patients

Physical therapy and temporary bracing are important to the recovery process. From the beginning, braces are used to protect the newly repaired tendons but allow the patient to move the replanted part. Therapy with limited motion helps keep joints from getting stiff, helps keep muscles mobile, and helps keep scar tissue to a minimum.

Even after you have recovered, you may find that you cannot do everything you wish to do. Tailor-made devices may help many patients perform special activities or hobbies. Talk to your physician or therapist to find out more about such devices. Many replant patients are able to return to the jobs they held before the injury. When this is not possible, patients can seek assistance in selecting a new type of work.

For amputees

If you have completed an amputation, therapy and rehabilitation also play a large part in recovery. For the missing part, a prosthesis may be worn (a device that substitutes for a missing part of the body).

Emotional recovery

Replantation or amputation can affect your emotional life as well as your body. When your bandages are removed and you see the replanted or amputated part for the first time, you may feel shock, grief, anger, disbelief or disappointment because the body part does not look like it did before. These feelings are common. Talking about these feelings with your doctor often helps you come to terms with the outcome. Your doctor may also ask a counselor to assist with this process.