

KRT



Dr Parag Sahasrabudhe elaborates the various aspects of Reconstructive Plastic Surgery

Changing face of surgery

Reconstructive surgery is done to repair any deformity in the body, such as post-traumatic accidental defects, burns, congenital defects in any part of the body, or even restorative surgery for post cancer patients. The goal here for a plastic surgeon is to repair the deformity to restore normality.

Microsurgery has revolutionised the options available in reconstructive plastic surgery. Microsurgery is used for complex reconstructive surgery problems when other options such as primary closure, healing by secondary intention, skin grafting, local flap transfer, and distant flap transfer are not adequate. Here reconstruction of the damaged part is done by borrowing tissues from the patient's own body (for example the skin from the abdomen region may be used to repair a hand injury); but it must be ensured that no gaps are left in the donor area. The procedure is extremely meticulous and requires careful assessment and planning.

Once the decision to proceed with microsurgery is made, the optimal flap or donor site must be chosen.

This is based on a combination of the amount and type of tissue needed (bone, muscle, tendon, nerve, skin), the length of vascular pedicle, and reliability of the flap. Doctors try to take the tendon, which may be of least importance in the body.

In case there is a serious wound to the hand where the tendons, bones and blood vessels are exposed, immediate reconstructive surgery is necessary otherwise it would desiccate.

Earlier, in case of reconstructive surgery with free tissue transfer, it would require at least three weeks for the healing to take place. For example in case of reconstructive hand surgery, the hand had to be kept attached to the donor area such as the abdomen till the tissues in the hand

were restored. Now with the tools of microsurgery, one single surgical procedure enables the surgeon to cut skin and blood vessels from the pedicle flap, such as from the abdomen, and join it with blood vessels in the hand. Thereby fresh blood supply is restored in the hand and it does not need to be attached to the donor area.

In case of any trauma or severe injury post accident, the wound must be kept covered to prevent any infection from affecting the bones. If the wound is properly covered and no infection spreads, then timely surgery with free microvascular tissue transfer would help speed the healing process.

Very often in industrial accidents, fingers may be crushed or skin may be lost. An amputated part, such as a

disengaged finger, can be put back if it is preserved in the correct manner. It should not be kept directly in saline or ice water as these could cause the amputated part to swell or develop crystals. An amputated part can be restored if surgery is performed within 6-12 hours after the injury. However, if the level of amputation has taken place higher than the elbow, then surgery should be done within six hours. The correct way of preservation is to clean the amputated body part with saline, put it in a plastic bag, seal and keep in an open container with ice. This should then be transported to a microsurgery centre at the earliest. This is an important fact, especially for patients who may have to travel long distances to reach the hospital.

When bone from the leg is used to reconstruct the jaw, it is known as oncosurgery. Maxillofacial surgery is used in case of facial bone fractures. The lower jaw can be fixed with help of mini and micro plates, and screws. In case of eyeball fractures, the maxillofacial surgeon has to ensure that vision is preserved.

Craniofacial surgery is done to correct congenital defects of the scalp. So also, if there is any defect in the cleft lip or palate such as failure of union of these parts then reconstructive surgery can help fix this defect. This is common in children below one year old, where speech defects can be fixed with surgery. Surgery can be done even at a later age.

Reconstruction of tissues is also required in patients following cancer of the oral cavity, since part of the jaw or teeth may have been removed. Reconstruction of tissues is done using free muscular flap ideally in a single surgical procedure.

— AS TOLD TO IPSITA DAS

Dos and don'ts in case of hand injury:

- Clean the wound with saline or plain water.
- Do not apply turmeric or cotton directly over the wound to stop bleeding. If the hand is kept in an elevated posture above the shoulder level, this would help stop bleeding.
- Give support to the injured hand.
- Do not eat anything after the accident because surgery may be required. Avoid alcohol as this induces bleeding.
- Do not ignore even minor injuries. Even minute particles such as glass or splinters, if they enter the body, can damage the tendons if overlooked.