

Indications And Principles Of Replantations

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The decision to replant one or multiple amputated parts is not always obvious and easy. The chance of success and possible post-replantation morbidity must be considered before replantation is attempted. Generally, the replanted limbs are expected to perform no worse than a revised amputation or a prosthetic replacement. More often than not, the final decision is made in the operating theatre after inspecting the vessels and nerves under magnification.

Although indications of replantation are not strictly binding, the most suitable patients for replantation are those with amputations of the thumb, multiple digits amputations, transmetacarpal amputations, wrist or forearm amputation and elbow or above elbow amputations. Almost any part of amputation in a child should be replanted. As for a single digital amputation, good candidates are those with amputation distal to the flexor digitorum superficialis (FDS) tendon.

Replantation is contraindicated if the amputated parts and limbs are severely mangled or crashed and if the amputations occur at multiple levels. Amputation with prolonged warm ischaemia time should not be replanted too. Patients with serious life-threatening injuries or co-morbidities and mentally unstable patients are contraindicated.

The principles of replantation begin with choosing the right candidates with the right indications. Despite the urgency, an informed consent of the procedure including postoperative care, prolonged stay, replant failure and other morbidities should be obtained. The amputated part is brought to operating theatre first for preparation while the patient is prepared for surgery. The amputated part is kept cold while the stump is prepared. The bone needs to be shortened to allow tension free primary repair of the vessels and nerve. Stable bone fixation is important before repairing other soft tissue. Repair the artery first if replantation is delayed. Do not hesitate to use vein graft if normal intima cannot be reconnected to a normal intima of artery. Hemostasis control is vital to prevent vessels compression by hematoma formation. Avoid tight skin closure and constrictive bandage.