PROCEDURE

Reconstructive surgery

Reconstructive surgery repairs or rebuilds body tissue to improve function, appearance, or both.

PURPOSE
Restore form, function, or both after tissue damage

PROCEDURE TYPE
Therapeutic surgery using open or minimally invasive techniques

WHERE IT IS DONE
Operating theatre or outpatient clinic

ANAESTHESIA
Usually general; local anaesthesia for some smaller procedures

HOW LONG IT TAKES
Thirty minutes to twelve hours, based on complexity

PREPARATION
Health review, medication, fasting, nicotine, and wound-care instructions

RECOVERY
Same day to weeks inpatient; no driving while impaired

MAIN RISKS
Bleeding, infection, wound problems, tissue or implant failure

RESULTS
Early shape immediate; final healing assessed over months

Overview

Reconstructive surgery repairs, replaces, or reshapes tissue affected by injury, illness, surgery, or a condition present from birth. Its main aim is to restore function or a more usual body shape. Appearance is often important, but reconstructive surgery is different from surgery performed only for cosmetic reasons.

The term covers many operations. Examples include breast reconstruction after cancer surgery, repairing a cleft lip or palate, closing a difficult wound, rebuilding tissue after a burn, and restoring movement after a hand injury.

Surgeons may use nearby tissue, tissue moved from another part of your body, or an implant. Some complex operations use microsurgery, in which tiny blood vessels or nerves are joined under a microscope.

Reconstruction may be completed in one operation or planned as several stages. The details and recovery can differ greatly, so your surgical team should explain what applies to your operation.

Why the procedure is performed

Reconstructive surgery may be offered to:

Timing matters. Some reconstruction happens during the same operation that removes damaged or cancerous tissue. Other reconstruction is delayed until a wound has healed, swelling has settled, or treatments such as radiation or chemotherapy have been completed.

- Restore movement, breathing, swallowing, speech, or another body function
- Cover an open wound or protect exposed bone, tendon, or hardware
- Rebuild tissue removed during cancer treatment
- Repair damage caused by trauma, burns, infection, or earlier surgery
- Correct a structural difference present from birth
- Improve a painful, tight, or movement-limiting scar
- Restore body shape when this may improve comfort or quality of life

Who should and should not have it

You may be considered for reconstructive surgery when there is a realistic chance of improving function, protecting tissue, closing a wound, or restoring body shape. The expected benefit should outweigh the burdens of surgery and recovery.

It may not be the right choice if a non-surgical option can meet your goals with less risk. It may also be avoided or delayed when:

Age alone does not decide whether you can have reconstruction. Your general health, circulation, previous operations, medicines, treatment plan, and ability to recover are usually more important.

- You have an active infection in or near the surgical area
- Your heart, lung, or other medical condition is not stable enough for surgery
- Blood flow to the planned reconstruction is poor
- Diabetes or another condition is not well controlled

- Nicotine use is likely to interfere with blood flow and healing
- Cancer treatment or further tissue removal must happen first
- You cannot safely follow wound, drain, or activity instructions afterward
- The likely result does not match your goals or expectations

How to prepare

Your treating facility's own instructions take priority because preparation differs between operations.

You may need a medical assessment, blood tests, imaging, photographs, or measurements. For complex reconstruction, your surgeon may examine possible donor sites-the areas from which tissue could be taken.

Give the team a complete list of your medicines, supplements, allergies, and previous reactions to anaesthesia. Ask specifically about blood thinners like warfarin or apixaban , diabetes medicines, anti-inflammatory pain medicines, and supplements. Do not stop a prescribed medicine unless the treating team tells you to.

Follow the facility's instructions about when to stop eating and drinking. If nicotine is relevant, ask how long you need to avoid cigarettes, vaping, nicotine replacement products, and other nicotine sources. Nicotine narrows blood vessels and can reduce healing.

Arrange transportation and, if needed, help at home. Prepare loose clothing and a safe place to sleep. Ask whether you will have drains, dressings, movement restrictions, or special equipment after surgery.

What happens during the procedure

Before surgery, the team confirms the planned operation and marks the relevant areas. You may receive antibiotics and medicines to reduce nausea or blood-clot risk when appropriate.

Most major reconstruction is performed under general anaesthesia, meaning you are unconscious. Smaller procedures may use local anaesthesia to numb one area, sometimes with sedation.

The surgeon may use one or more techniques:

The surgeon closes the incisions with stitches, staples, skin adhesive, or a combination. Drains may be placed to remove fluid. Dressings, splints, or compression garments may protect the

reconstruction.

- Direct closure: bringing the wound edges together
- Skin graft: moving a thin piece of skin without its own blood supply
- Flap reconstruction: moving skin, fat, muscle, or bone with a blood supply
- Microsurgery: reconnecting tiny vessels or nerves in transferred tissue
- Tissue expansion: gradually stretching nearby skin with an inflatable device
- Implant reconstruction: using a manufactured implant to restore shape

Recovery and what to expect afterward

Pain: Soreness, tightness, bruising, and swelling are expected. A donor site may hurt as much as, or more than, the reconstructed area. Use pain medicine as directed and tell the team if pain is getting worse rather than gradually improving.

Eating: After general anaesthesia, you usually start with fluids and light food. More extensive surgery may require a slower return to normal eating, especially if the mouth, throat, or digestive tract was involved.

Activity: Early gentle movement may help circulation, but you may need to avoid lifting, stretching, pressure, or certain positions. Follow instructions for dressings, drains, splints, and compression garments. Do not put ice or heat on a reconstruction unless approved, because reduced sensation can lead to injury.

Driving: Do not drive while affected by anaesthesia, sedatives, strong pain medicine, restricted movement, or a splint. You must be able to control the vehicle and perform an emergency stop safely. Follow your facility's stated restriction.

Work: Return may take a few days after a small repair or several weeks after major reconstruction. Physical work usually requires more time than desk-based work. Some people return in stages with temporary restrictions.

Swelling and scars change over months. Numbness or altered sensation is common around incisions and donor sites. Some sensation may return slowly, but it may not return completely.

Risks and possible complications

All surgery has risks. The risks most relevant to you are influenced by the body area, operation length, blood supply, implants, previous radiation, and your health.

Possible complications include:

A flap can fail if its blood supply becomes blocked. Rapid recognition may allow the surgical team to restore blood flow, which is why monitoring instructions are important.

You may need revision surgery even when healing is otherwise normal.

- Bleeding, a collection of blood, or the need for another operation
- Infection or delayed wound healing
- Fluid collecting under the skin
- Blood clots in the legs or lungs
- Prominent, raised, widened, or tight scars
- Numbness, weakness, or nerve pain
- Uneven shape or a result different from what was expected
- Problems at the donor site, including weakness or contour changes
- Implant infection, movement, exposure, hardening, or later replacement
- Partial or complete loss of a skin graft or flap

Results and follow up

The new shape is often visible soon after surgery, but swelling, dressings, and bruising can hide the final result. Scars usually change for many months. Function may improve gradually with healing, physiotherapy, occupational therapy, or speech therapy.

Follow-up appointments may be used to check blood flow, remove drains or stitches, review wounds, and adjust activity limits. Keep these routine appointments even if you feel well.

If tissue was removed for laboratory examination, those results may take several days or longer. Your team should tell you how and when they will be shared.

Some reconstructions require planned later procedures, such as adjusting shape, replacing a tissue expander, refining a scar, or restoring a nipple after breast reconstruction.

Alternatives

The alternatives depend on what reconstruction is intended to achieve.

Doing nothing or delaying surgery avoids immediate surgical risk. However, a wound, functional limitation, or change in body shape may remain. Delaying can allow more time for

treatment or decision-making, but scar tissue or changes in the wound may make later surgery different.

A prosthesis or external device can replace appearance or support function without major surgery. It requires fitting and ongoing use and does not become part of your body.

Dressings, negative-pressure wound therapy, or allowing a wound to close gradually may avoid a larger operation. Healing can take longer, require frequent care, and leave a less durable covering.

Physiotherapy, occupational therapy, splints, scar treatment, or camouflage products may improve movement, comfort, or appearance. They cannot replace missing tissue or close every wound.

A simpler skin graft usually means a shorter operation than a flap. It may be less durable, have a different colour or texture, and cannot cover every exposed structure.

Different reconstructive techniques also have trade-offs. An implant avoids a donor-site wound but may need replacement or removal. Using your own tissue involves another surgical area and a longer recovery but avoids a permanent implant.

When to call your healthcare team

Contact your surgical team promptly for increasing redness, warmth, swelling, drainage, bad odour, worsening pain, wound opening, or a fever that meets the threshold in your discharge instructions. Also call if a drain stops working, falls out, or suddenly fills with blood.

If you have a flap, seek urgent advice for a sudden change in its colour, temperature, swelling, firmness, or pain. Use the emergency contact number supplied by the reconstructive team.

Seek emergency care for trouble breathing, chest pain, fainting, confusion, uncontrolled bleeding, or coughing up blood. Sudden one-sided leg swelling with breathing difficulty also needs emergency assessment.

Questions about scars, mild ongoing swelling, activity, or return to work can usually wait for routine office hours or a planned follow-up appointment.

Common questions

Will I be asleep?

Most major reconstructive operations use general anaesthesia, so you are unconscious. A smaller repair may use local anaesthesia, with or without sedation.

Can I drive home?

Not after general anaesthesia or sedation. Arrange for a responsible adult to take you home. Longer restrictions may apply because of pain medicine, limited movement, or the location of the surgery.

How painful is reconstructive surgery?

Pain depends on the operation and whether tissue is taken from another area. Soreness and tightness are common, but the treatment plan should make pain manageable. Worsening or uncontrolled pain needs medical advice.

When will I know if it worked?

The surgeon can assess the repair early, but swelling and healing affect the appearance. Function and final shape may take weeks or months to judge.

Will I have scars?

Yes. Reconstruction requires incisions at the repaired area and sometimes at a donor site. Scars usually soften and fade, but they do not disappear completely.

Will I need more than one operation?

Possibly. Some reconstruction is deliberately staged, and revision may be offered to improve function, shape, symmetry, or scarring.

Sources

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- National Health Service. Plastic surgery
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- National Institute for Health and Care Excellence. Surgical site infections: prevention and treatment, guideline NG125
- American Society of Anesthesiologists. Preparing for surgery
- MedlinePlus. After surgery